

12.3/20:993

Productivity Measures for Selected Industries and Government Services

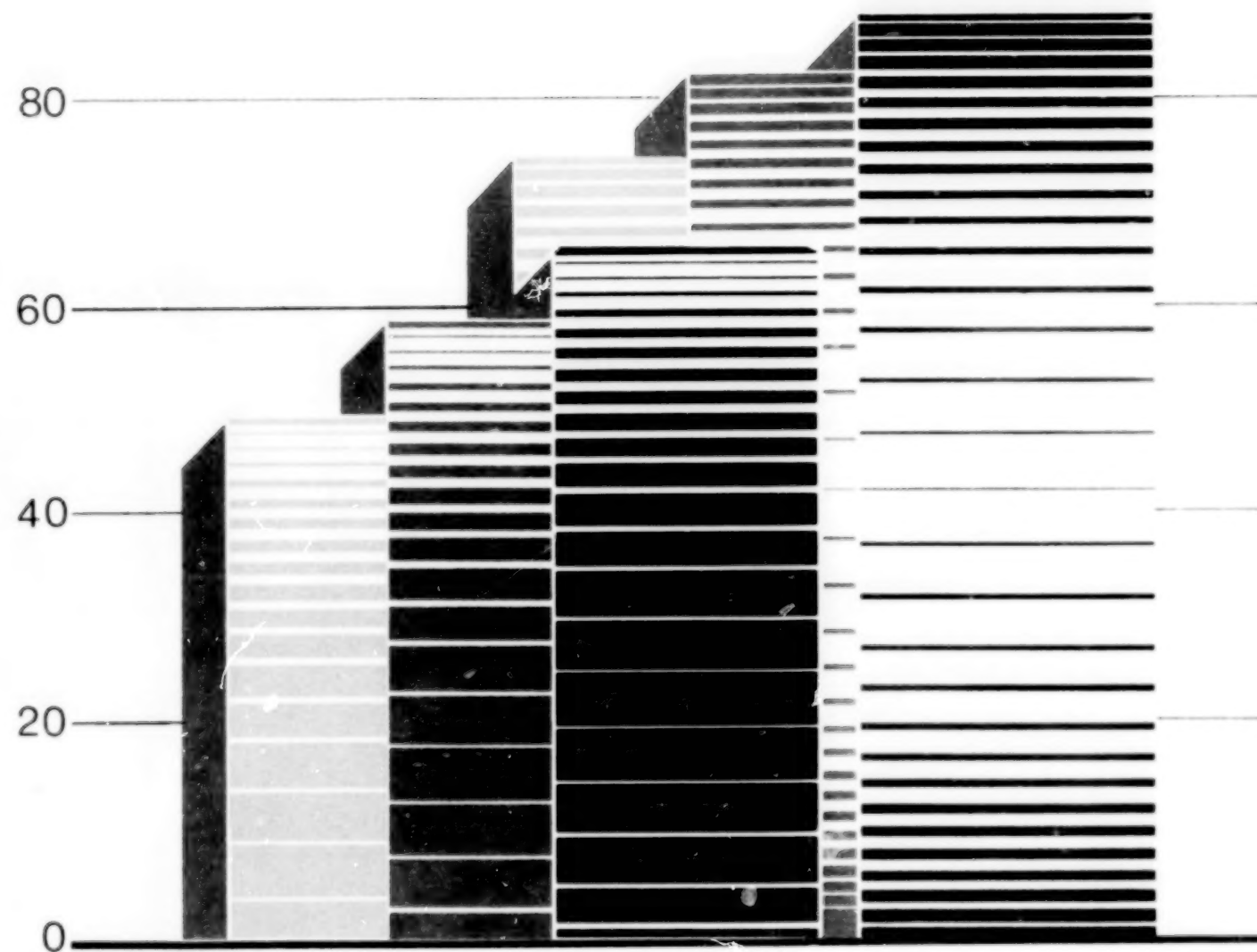


6p
U.S. Department of Labor
Bureau of Labor Statistics
April 1993

Bulletin 2421

Percent

100



Productivity Measures for Selected Industries and Government Services



U.S. Department of Labor
Robert B. Reich, *Secretary*

Bureau of Labor Statistics

April 1993

Bulletin 2421

I

BLANK PAGE

Preface

This annual bulletin updates all indexes currently included in the industry productivity measurement program of the Bureau of Labor Statistics (BLS). It contains three sections. Parts I and II discuss labor productivity trends and multifactor productivity trends, respectively, for selected industries, and part III, labor productivity trends for selected government functions.

This bulletin was prepared in the Bureau's Office of Productivity and Technology, under the direction of Charles Ardolini, Chief of the Division of Industry Productivity Studies. Industry labor productivity measures were prepared by Ziaul Ahmed, Robert Critchlow, Daniel Curtin, Mark Dumas, John Ferris, Brian Friedman, J. Edwin Henneberger, Clyde Huffstutler, Susanne Johnson, Virginia Klarquist, Alexander Kronemer, Temple Lee, Richard Lyon, John Olsen, Craig Saunders, Mark Sieling, Miranda Simmons, Patricia Wilder, and James York, under the direction of Richard Carnes and Kent Kunze. Multifactor productivity measures were prepared by Mary

Jablonski, Paul Kern, Thomas Muth, and Clayton Waring, under the direction of John Duke. Government productivity measures were prepared by Edwin Adelman, Gary Burdette, Sandra Graham, Mary Greiner, Barbara O'Neil, and Arthur Young, under the direction of Donald Fisk and Darlene Forte.

The data presented in this bulletin supersede the series published in News Release USDL 92-750, November 30, 1992. The 1991 data in this bulletin are preliminary and are subject to future revision. A detailed description of the methods used to construct these indexes can be found in appendix A, "Methods and Data Sources", of this bulletin.

Material in this publication is in the public domain and, with appropriate credit, may be reproduced without permission. This information will be made available to sensory impaired individuals upon request. Voice phone: (202) 606-7828; TDD phone: (202) 606-5897; TDD message referral phone: 1-800-326-2577.

BLANK PAGE

Contents

	<i>Page</i>
Introduction.....	1
Part I. Labor productivity trends for selected industries.....	2
Current developments.....	2
Long-term trends.....	3
New measures.....	4
Chart 1. Output per hour for selected industries, 1973-79, and 1979-90.....	4
Tables:	
1. Selected industries: 1991 employment and average annual rates of change in output per hour, 1973-79, 1979-90, and 1990-91.....	7
2-178. Output per hour and related indexes for selected industries.....	10
Part II. Multifactor productivity trends for selected industries.....	99
Current developments.....	99
Long-term trends.....	100
Variations in industry trends in multifactor productivity.....	100
Charts:	
2-7. Multifactor productivity for selected industries, 1958-90.....	101
Tables:	
179. Multifactor productivity growth and its relationship to output per hour for selected industries, 1958-90.....	99
180-191. Multifactor productivity indexes and related indexes for selected industries, 1967-90.....	103
Part III. Labor productivity trends for selected government functions and services.....	109
Federal Government.....	109
Current developments.....	109
Long-term trends.....	109
Compensation and unit labor cost.....	111
State and local government.....	111
Electric services.....	111
State sales of alcoholic beverages.....	112
Unemployment insurance.....	112
Chart 8. Output per employee year in the Federal Government by function and for total measured portion, fiscal years 1967-91.....	110

Contents-Continued

	<i>Page</i>
Tables:	
Indexes of output per employee year and related data:	
192. Federal Government—Total measured portion, 1967-91	114
193-220. Federal Government: Functions, 1967-91	114
221-223. State and local government	128
Appendixes:	
A. Methods and data sources	130
B. BLS publications on productivity and technology	135
Index of tables	140

Introduction

Public interest in productivity has grown in recent years. Increases in output per employee hour have been recognized as important indicators of economic progress and a means to higher income levels. This bulletin presents data on productivity trends in 177 manufacturing and nonmanufacturing industries, primarily at the 4-digit Standard Industrial Classification level. Measures for these industries are published on an annual basis. Each year new industries are added to those already published. This bulletin includes for the first time labor productivity indexes for dairy products; cheese, natural and processed; prepared fresh or frozen fish and seafoods; wood containers; and bolts, nuts, rivets, and washers. Articles on prepared fresh or frozen fish and seafoods, wood containers, and bolts, nuts, rivets, and washers were published in the October 1992 issue of the *Monthly Labor Review* (MLR), and an article on cheese is forthcoming in the MLR.

Two industries that were previously published were deleted from this bulletin because of limitations of some of the data underlying the measures. BLS is assessing these data reliability questions and also is examining alternative sources for these data. The industries are pharmaceutical preparations (SIC 2834), and semiconductors and related devices (SIC 3674). After completion of this assessment, publication of productivity measures for these industries may be resumed.

Indexes of change in output per employee hour for each industry are presented in part I. These measures are not necessarily a representative cross-section of U. S. industries. The labor productivity measures describe the relationship between output in real terms and the labor time involved in production. Indexes are constructed showing the ratio for two periods of the total hours required to produce a given composite of products and services. Although these measures relate output to employment and employee hours, they do not measure the specific contributions of labor, capital, or any other factors of production. Rather, they reflect the joint effect of a number of interrelated influences, such as changes in technology, capital invest-

ment per worker, level of output, utilization of capacity, layout and flow of material, managerial skill, and skills and effort of the work force.

Part II presents indexes of multifactor productivity to help provide insight into some of the factors influencing labor productivity change. Indexes of multifactor productivity represent the change in output per unit of combined labor, capital, and intermediate purchases. The differences in the movement of these indexes and the labor productivity indexes provide a measure of the effect of changes in capital and intermediate purchases relative to labor.

Part III examines labor productivity indexes for selected government functions and services. Federal indexes, measuring output per employee year, are constructed with data collected from a sample of agencies and cover the fiscal years, 1967-91. Indexes are also presented for three State and local government services. Like labor and multifactor productivity indexes for industries, indexes of output per employee year for government functions and services reflect the joint effect of a number of interrelated influences.

The Bureau of Labor Statistics also publishes indexes of output per hour and multifactor productivity for the business sector and for the nonfarm business, manufacturing, and corporate sectors. These productivity series show the relationship between output in these sectors and labor and/or capital inputs. These data are presented in several BLS publications, including "Productivity and Costs" (quarterly news release), the *Monthly Labor Review*, and *Employment and Earnings*. More detailed information on methods, limitations, and data sources is contained in *BLS Handbook of Methods*, BLS Bulletin 2414. Reports on individual industries and tables and output indicators for Federal Government functions are available from the Bureau of Labor Statistics on request. Further information concerning the indexes covered in this bulletin can be obtained by writing to the Office of Productivity and Technology, Room 2150, Bureau of Labor Statistics, Washington, DC 20212-0001. Telephone: (202) 606-5618.

Part I. Labor Productivity Trends for Selected Industries

Current developments

Labor productivity in 1991 rose in 61 of the 93 industries that BLS has updated (out of 177) to the most current year. This was an increase from 1990 when 53 of these same industries experienced productivity gains, and also up from 1989 when 50 did. In 1988, 69 of the measured industries showed an increase in productivity, and in 1987, like 1991, 61 did.

There is, however, a major difference between the 1987 and 1991 performances among these 93 industries. Though the 2 years recorded the same number of industries showing some productivity growth, 68 of the industries in 1987 reported increases in output, while only 30 did in 1991. Of the 93 industries, the number recording rising output has dropped steadily since 1988 when a 5-year high of 71 showed output growth.

Often in years when many industries post output gains many will also show improvements in productivity, as was the case in 1988. But among these measured industries, it is not unusual to observe more reporting productivity growth than the number of those experiencing increases in output. This happened not only in 1991, but also in 8 other years since 1973. What is notable about 1991, however, is the margin by which the number of industries reporting labor productivity growth exceeded the number of industries showing output growth. Thirty-one more industries recorded productivity growth than reported output growth in 1991. In the period since 1973, only once has this margin been greater: In 1982, 34 more industries recorded productivity gains than those with output gains.

Part of the reason for the number of industries showing productivity gains in 1991, despite the many recording slipping output, is that many have been forced to streamline and cut total employee hours. Of the 93 measured industries, 78 recorded declines in employee hours, compared to 1988, for example, when 43 had declining employee hours. In the period since 1973, only in 1982, when 79 industries recorded declines in employee hours, was the 1991 mark exceeded.

These cuts occurred across all industrial sectors. Among the measured industries in the manufacturing sector, for example, the four largest—those with approximately 250,000 employees or more, in particular, the pulp, paper, and paperboard mills industry, the miscellaneous plastic products, n. e. c. industry, the steel industry, and the mo-

tor vehicles and equipment industry—all recorded declines in employee hours. Only the pulp, paper, and paperboard mills industry saw its output rise, albeit very modestly at 0.2 percent, giving productivity a 0.3-percent nudge. For the other three, output fell by more than employee hours, so all three registered declines in productivity. For the motor vehicle and equipment industry, productivity fell for the third straight year. But overall, 68 percent of the measured industries in the manufacturing sector recorded productivity growth, while less than 30 percent showed any output growth.

A similar situation was observed in the trade sector. More than 60 percent of the measured trade industries recorded gains in productivity at the same time that less than 40 percent experienced output growth. Nearly 85 percent of the measured industries had declines in all-person hours. Retail bakeries, with falling all-person hours (but which was one of the trade industries that did record output growth) posted the greatest productivity gain in 1991, rising 13.6 percent over the previous year, while scrap and waste material wholesalers (also with falling all-person hours and growing output) recorded 1991's third highest gain of 8.5 percent.

Likewise, in the transportation and utilities sectors most measured industries had productivity gains coupled with employee hour declines. Employee hours fell in the railroad industry, and the number of employees dropped in airline transportation. Employee hours also fell in telephone communications and electric power. All the industries recorded gains in productivity, and except for airline transportation, all experienced rising output. In the case of railroad transportation, its 8.3-percent productivity gain was the fourth highest gain in 1991 of the measured industries.

Among the measured industries in the service sector, productivity gains were recorded in the hotels and motels industry, and in beauty and barber shops. Productivity fell in the laundry, cleaning, and garment reticve industry and in automotive repair shops. Although both these industries registered declines in all-person hours, output fell by greater percentages. All-person hours also fell in the hotels and motels industry.

Productivity rose in the coal mining and the petroleum and natural gas production industries, while falling in the copper mining and the nonmetallic mineral extraction in-

dustries. Except for copper mining, employee hours fell in all of these industries.

Long-term trends, 1973-90

Productivity in 84 percent of the industries included in this bulletin increased over the period 1973 to 1990. Of these industries, rates of growth varied from 0.1 percent to 9.0 percent per year. Industries experiencing the highest growth in productivity included household audio and video equipment, and wet corn milling. In the household audio and video equipment industry, productivity advanced at an average annual rate of 9.0 percent between 1973 and 1990. In the wet corn milling industry, productivity increased at a rate of 8.7 percent per year.

Other industries exhibiting high rates of productivity growth during this period exist throughout most sectors of the economy. In the mining sector, copper mining showed the largest increase in productivity at 5.5 percent per year, with iron and coal mining both recording average annual increases of more than 3.0 percent. In fact, with the exception of crude petroleum and natural gas production, which had a productivity decline of 3.4 percent, all measured mining sector industries showed productivity growth over the period.

In the manufacturing sector, in addition to the gains recorded in the household audio and video equipment, and wet corn milling industries, productivity gains of more than 5.0 percent per year were posted in the primary copper, bottled and canned soft drinks, and malt beverages industries. Processing improvements were largely responsible for productivity growth in these industries. In the manufacturing sector productivity advanced over the period in nearly 90 percent of the measured industries.

Among utilities, productivity in telephone communications grew at an average annual rate of 5.5 percent. Productivity gains were largely attributable to the diffusion of direct dialing and electronic operator systems. The introduction of coaxial cable and then fiber optics substantially increased the number of calls which could be transmitted. In addition, the spread of electronic switching and increased computerization reduced the need for repair and maintenance labor.

Long-term productivity rose at a rate of 5.8 percent per year in the railroad transportation industry, the highest rate of growth in the transportation sector. This increase resulted from technological advances and structural changes. With the exception of bus carriers, the remaining measured transportation industries also recorded increases in productivity.

In the trade sector, output per hour increased 5.6 percent per year in radio, television, and computer stores, with gains in excess of 3.0 percent recorded in household appliance and in women's clothing stores. These industries benefitted from relatively strong demand, growth among

chain stores, and increased use of computers in marketing and operations. Productivity increased in nearly 70 percent of the remaining industries in this sector.

For those measured industries in the remaining service related sectors, commercial banking recorded the highest long-term average annual growth in productivity—6 percent. Computerization of administrative, accounting, and check handling functions has resulted in productivity improvements, while increased banking services and extended hours have spurred the need for additional employees.

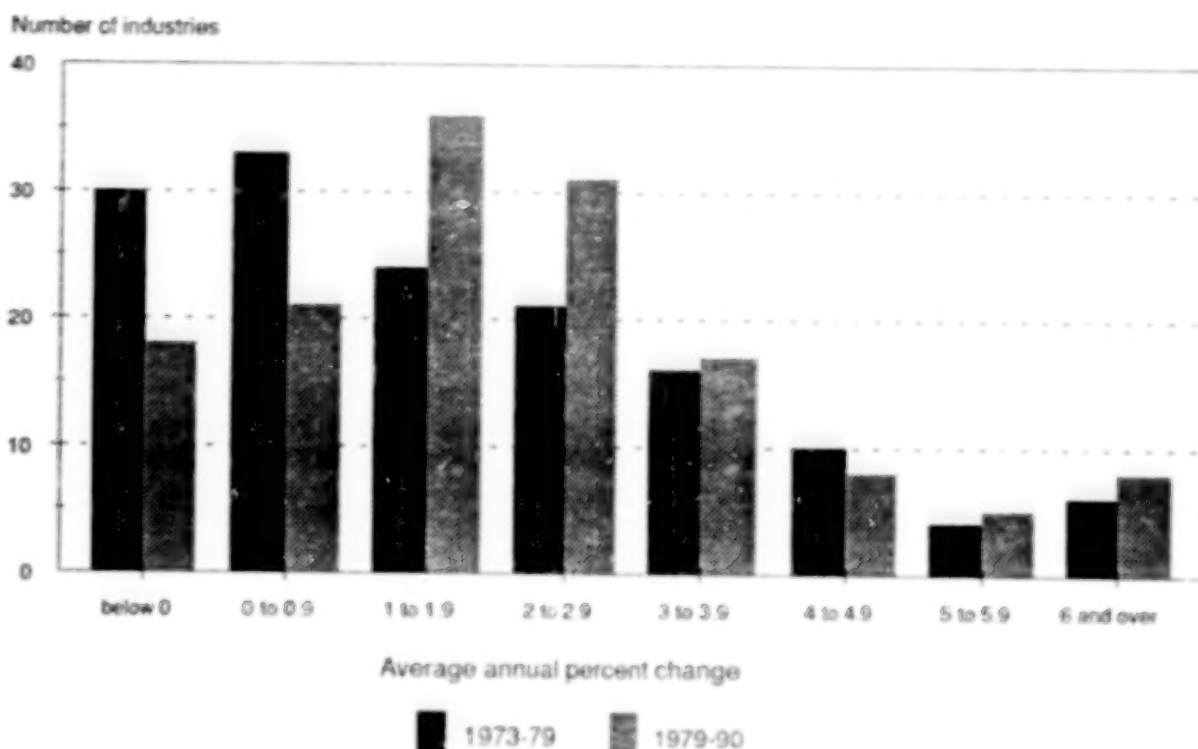
Several industries did exhibit declining productivity over the period. The industry with the greatest rate of decline was the crude petroleum and natural gas production industry, which experienced a long-term decrease of 3.4 percent annually. Other industries registering annual average declines in productivity of more than 1 percent included: Gas utilities (2.5 percent), fabricated pipe and fittings (1.9 percent), and oil and gas field machinery (1.6 percent).

Rates of change varied widely among the industries when the overall period (1973-90) was broken into two subperiods, covering the years 1973-79 and 1979-90 (see chart 1). These periods were selected because the years 1973, 1979, and 1990 were all peak years of business cycles, as determined by the National Bureau of Economic Research. Therefore, the two periods are comparable because they both begin and end at the same stage of the business cycle.

Fifty-six percent of the industries recorded higher annual average rates of change after 1979 than during the 1973-79 period; 4 percent showed the same trends; and the remaining 40 percent showed lower productivity after 1979. The largest increase in the average annual rate of change from the first time period to the second occurred in coal mining. For this industry, the annual rate of change in labor productivity in the first period declined 3.9 percent; in the second period it increased 7.3 percent. In both periods coal mining experienced average annual increases in output. However, during the first period, hours increased 8.6 percent annually. During the second period, which witnessed the opening of new, larger, and more modern mines, and the introduction of advanced equipment, hours decreased 4.5 percent per year. In the mining sector all of the industries exhibited higher rates of change in the later period.

Fifty-eight percent of the manufacturing industry measures showed higher productivity rates for the post-1979 period than during the 1973-79 period. The manufacturing industry with the largest increase in trend rates was carburetors, pistons, rings, and valves. For this industry the first period's average annual rate of labor productivity change was -3.9 percent; for the second period it was 3.3 percent.

Chart 1. Output per hour in 144 industries



Note: Average annual percent change using compound rate formula

The percent of industries in the remaining sectors (utilities, transportation, trade, and services) that recorded higher average annual rates in productivity after 1979 than between 1973 and 1979 varied. While 50 percent of the trade industries had higher average annual rates of change after 1979, only 40 percent of the transportation industries, 33 percent of the utility industries, and 25 percent of the service industries exhibited higher post-1979 trends.

New measures

Cheese, natural and processed (SIC 2022). Productivity, as measured by output per employee hour, increased at an average annual rate of 2.3 percent from 1972 to 1990 in this industry. The growth in productivity and output reflects strong demand, the integrated use of computers, and the mechanization of cheese making systems. Output rose 4.6 percent and employee hours increased 2.3 percent during the same period. The three major product groups in the industry are natural cheese except cottage, processed cheese and related products, and cheese substitutes.

Between 1973-79, output in the cheese industry grew at an annual rate of 4.1 percent. During this period many manufacturing industries felt the effects of slow growth associated with the 1973-75 recession. The cheese indus-

try, however, recorded its largest increase in output (11.9 percent) during the period studied in 1974. Employee hours increased steadily at a rate of 3.1 percent per year and output per employee hour rose 0.9 percent per year. Per capita consumption of cheese rose 33 percent during the 1973-79 period supporting growth in the industry. The mid-1970's introduced new technologies, including enclosed vat systems and mechanized systems, which mill, salt, and hoop in a continuous stream. These systems resulted in labor savings, increased yields, and improved production flow.

During the 1979-90 period, output per employee hour increased 3.1 percent, output increased 5.0 percent, and employee hours increased 1.8 percent. Continued modernization of the industry contributed to the continued growth in productivity. Manufacturers integrated computers into all segments of the manufacturing process from accounting functions to regulating the flow of raw materials. Other advances were made in automated packaging and handling. The ongoing consolidation of the industry also enhanced productivity growth in the industry. During this period the number of marginal and inefficient establishments declined significantly. The decline was most severe for those establishments with 1-19 employees. Establishments that could not modernize, either shutdown or found a niche in novelty or specialty cheese products.

Dairy Products (SIC 202). Productivity in the dairy products industry advanced at an annual average rate of 3.7 percent between 1967 and 1991. Output grew at an average annual rate of 1.3 percent while employee hours declined 2.3 percent. Employment in the industry fell by 2.3 percent per year over the same period. The dairy products industry includes establishments primarily engaged in manufacturing: Creamery butter; natural, processed, and imitation cheese; dry, condensed, and evaporated dairy products; ice cream and frozen desserts; and fluid milk.

Prepared fresh or frozen fish and seafoods (SIC 2092). The benefits of the surge in popularity that fish and seafood products are enjoying with consumers have yet to be reflected in the industry's long-term productivity growth rates. Productivity, as measured by output per hour, declined at an average annual rate of 0.9 percent per year in the industry, between 1972 and 1990. Underlying the industry's decline in productivity was a 2.3-percent rise in output and a 3.2-percent increase in employee hours.

The 2.3-percent annual increase in output between 1972 and 1990 in the industry resulted from years of modest growth in demand. With per capita consumption of fresh and frozen seafood rising some 28 percent since 1982, however, recent output growth rates have exceeded the industry's long-term average. The recent growth in output bodes well for the industry because many of the annual movements in productivity were closely correlated with changes in output. In 7 of the 11 years in which output advanced, there were increases in productivity. Similarly, productivity declined in 6 of the 7 years that output fell.

Additional factors that may have adversely affected industry productivity and output include limited technological diffusion and processing difficulties which resulted in the continued dependence on labor intensive techniques in some areas of production.

The large diversity of species and the products which can be derived from them complicates the transformation of raw fish and seafood into consumer goods. Each specie and product can present its own processing problems, often requiring modifications to existing equipment. Thus, attempts to fully automate fish processing have met with only limited success.

Nonetheless, many firms in the industry are automated to varying degrees, employing technologies that in some cases have existed for years. Most of the equipment has been improved incrementally, with future improvements expected as existing technologies are linked to computers to aid in such processing areas as inventory, packaging, and labeling. In some instances, however, these technologies have been disregarded in favor of manual operations. Many plant owners are discouraged by the cost of equipment, the expense of operating it, the difficulty of obtaining spare parts and service, and of finding personnel capable of running and maintaining it, even though quality would be improved and total costs of processing decreased.

Over the 1972-90 period, total employment in the prepared fresh or frozen fish and seafoods industry increased more than 60 percent, from 25,000 in 1972 to 40,500 in 1990, rising at an average annual rate of 2.7 percent. Total employee hours in this industry have also grown, increasing at a rate of 3.2 percent per year. The number of production workers in this industry increased from 21,800 in 1972 to 34,200 in 1990, or at an average annual rate of 2.5 percent. The number of nonproduction workers increased from 3,200 in 1972 to 6,300 in 1990—an average annual rate of 3.8 percent.

Industry employment levels are often affected by the erratic nature of the seafood business cycle. During peak seasons, the industry supplements its regular workforce with persons having little or no experience, ensuring that the perishable raw fish and seafoods are processed and shipped quickly. At other times, hampered by the absence of adequate raw materials, plants and employees may be idled.

Despite some obstacles, the industry's future seems to hold much promise. Transformation into a highly modern, productive industry seems possible. The success of this transformation though depends largely on the industry's ability to capitalize on the newfound popularity of its products.

Wood containers (SIC 244). Productivity, as measured by output per employee hour, grew at a rate of 2.2 percent per year over the 1977-90 period. Output increased at a rate of 3.0 percent during this period, while hours rose at a rate of 0.8 percent.

Productivity growth in the overall wood containers industry has been heavily influenced by the technological changes in the wood pallets and skids segment, its largest component. Mechanization of pallet manufacturing has been the driving factor in the growth of total industry productivity. Even small producers are using highly automated systems, although big producers—with their bigger production runs—can best afford the most automated systems with the greatest production capacities. In the 1970's, many producers began to believe economies of scale could improve efficiency in pallet manufacturing. Before then, a common belief held that transportation costs to more distant customers would offset any productivity gains to be made by automation or larger plants.

Computers are now being used to custom design pallets for many customers. This has helped to make pallets more attractive to potential end-users. Recycling pallets has become an important business. Recyclers typically obtain used pallets at little or no cost and either repair or dismantle them and use the components to make new pallets. The recycling business has gained added impetus as some municipalities have banned the dumping of old pallets in local landfills.

Bolts, nuts, rivets, and washers (SIC 3452). Output per employee-hour in the bolts, nuts, rivets, and washers in-

dustry increased at an average annual rate of 1.0 percent between 1958 and 1990. Output increased by 1.5 percent a year over this period while employee hours inched up at the rate of 0.5 percent annually.

The relatively low annual average increase in labor productivity for the bolts and nuts industry over the 1958-90 period, however, masks a pattern of accelerating productivity growth. The annual rate of productivity growth was 0.5 percent between 1958-73, 1.1 percent between 1973-79, and 1.6 percent between 1979 and 1990.

During the 1958-79 period, annual changes in industry output were often matched by concomitant changes in employee-hours. From the late 1970's through the early 1980's, however, industry employment and employee-hours declined faster than industry output declined, resulting in productivity increases. Faced with ebbing demand for domestically produced bolts and nuts caused primarily by growing competition from imports, many establishments, especially those employing 500 workers or more, shuttered their gates.

The bolts, nuts, rivets, and washers industry experienced a significant shift in its structure over the 1958-87 period. During this period, the number of small-sized

establishments employing fewer than 100 workers increased considerably as did their share of industry employment and value of shipments. Conversely, the number of large-sized establishments employing 500 workers or more declined significantly. The number of establishments employing fewer than 100 workers more than doubled between 1958 and 1987 as did the total number of employees working in them. On the other hand, the number of establishments employing 500 workers or more fell by two-thirds over the 1958-87 period as did their total employment.

Establishments also differed in terms of capital and labor intensity and production processes. While small-sized establishments generally tend to employ less capital per employee than larger sized facilities, their productivity levels, as defined by value added per employee, are about the same. The ratio of production to nonproduction workers within an establishment is also fairly constant regardless of size. Small- and medium-sized establishments, however, are more likely to use in-line production processes than their larger-sized counterparts, and in-line processing appears to be more efficient than other types of manufacturing processes, such as batch processing.

Table 1. Selected Industries: 1991 employment and average annual rates of change in output per hour, selected periods

Table 1. Selected industries: 1991 employment and average annual rates of change in output per hour, selected periods					
SIC code	Industry	1991 Employment (thousands)	Average annual percent change in output per hour ¹		
			1973 to 1979	1979 to 1990	1990 to 1991
	Mining				
1011	Iron mining, crude ore	9	1.3	5.9	n.a.
1011	Iron mining, usable ore	9	0.0	5.3	n.a.
1021	Copper mining, crude ore	16	2.9	5.3	3.8
1021	Copper mining, recoverable metal	16	2.3	7.2	-3.7
12	Coal mining	135	-3.9	7.3	3.3
122	Bituminous coal and lignite mining	126	-3.9	7.3	3.3
1311	Crude petroleum and natural gas	191	-7.3	-1.2	1.3
14	Nonmetallic minerals, except fuels	105	0.9	1.7	-4.1
142	Crushed and broken stone	38	2.2	1.8	-11.0
	Manufacturing				
2011,13	Red meat products	224	3.5	0.9	n.a.
2011	Meat packing plants	138	2.8	1.3	1.8
2013	Sausages and other prepared meats	86	5.5	0.0	n.a.
2015	Poultry dressing and processing	202	5.4	2.8	n.a.
202	Dairy products	156	3.4	3.1	0.7
2022	Cheese, natural and processed	42	0.9	3.1	n.a.
2026	Fluid milk	73	4.6	4.0	2.6
203	Preserved fruits and vegetables	252	1.0	1.6	n.a.
2033	Canned fruits and vegetables	90	1.3	2.1	n.a.
2037	Frozen fruits and vegetables	51	1.3	0.8	n.a.
204	Grain mill products	129	3.6	4.0	n.a.
2041,45	Flour (inc. flour mixes) and other grains	32	1.6	3.4	n.a.
2041	Flour and other grain mill products	21	3.2	3.3	n.a.
2042	Cereal breakfast foods	19	1.7	2.7	n.a.
2044	Rice milling	6	2.8	3.5	n.a.
2046	Wet corn milling	10	10.8	7.6	n.a.
2047,48	Prepared feeds for animals and fowls	63	3.6	4.0	n.a.
2051,52	Bakery products	198	0.3	1.2	0.2
2061,62,63	Sugar	22	1.1	6.7	4.2
2061,62	Raw and refined cane sugar	12	1.4	0.2	4.4
2063	Beet sugar	9	0.8	1.4	3.6
2082	Malt beverages	40	6.9	5.0	-0.6
2086	Bottled and canned soft drinks	99	4.6	6.3	5.1
2092	Prepared fresh or frozen fish and seafoods	45	0.5	-1.0	n.a.
2111,21,31	Tobacco products	41	2.2	2.4	0.0
2111,31	Cigarettes, chewing and smoking tobacco	38	2.4	2.2	0.4
2121	Cigars	3	2.1	3.9	-6.3
2211,21	Cotton and synthetic broadwoven fabrics	161	4.7	3.1	3.3
2251,52	Hosiery	69	6.3	1.1	5.9
2281	Yarn spinning mills	79	3.4	4.4	5.9
2311	Men's and boys' suits and coats	48	2.4	1.2	n.a.
2421	Sawmills and planing mills, general	149	1.0	3.0	2.1
2431	Millwork	99	-1.7	0.2	5.6
2434	Wood kitchen cabinets	65	1.7	0.6	n.a.
2435,36	Veneer and plywood	50	1.3	4.0	n.a.
2435	Hardwood veneer and plywood	22	3.3	2.3	n.a.
2436	Softwood veneer and plywood	28	0.2	5.0	3.9
244	Wood containers	44	n.a.	3.7	n.a.
251	Household furniture	271	0.7	1.5	3.2
2511,17	Wood household furniture	124	-0.4	0.8	3.6
2512	Upholstered household furniture	89	2.4	1.6	4.3
2514	Metal household furniture	22	-0.8	3.3	4.3
2515	Mattresses and bedsprings	29	2.5	2.5	-0.6
252	Office furniture	62	2.8	0.5	4.0
2521	Wood office furniture	30	6.0	-1.6	n.a.
2522	Office furniture, except wood	32	1.1	1.7	n.a.
2611,21,31	Pulp, paper, and paperboard mills	246	2.4	2.8	0.3
2653	Corrugated and solid fiber boxes	118	3.7	1.3	0.5
2657	Folding paper board boxes	49	2.0	0.9	-0.6
2673,74	Paper and plastic bags	53	0.7	0.7	n.a.
281	Industrial inorganic chemicals	126	1.6	0.1	n.a.
2812	Alkalies and chlorine	12	0.9	5.1	n.a.
2816	Inorganic pigments	10	-1.4	3.4	n.a.

See footnotes at end of table

Table 1. Selected industries: 1991 employment and average annual rates of change in output per hour, selected periods-Continued

SIC code	Industry	1991 Employment (thousands)	Average annual percent change in output per hour ¹		
			1973 to 1979	1979 to 1990	1990 to 1991
Manufacturing—Continued					
2819 (part)	Industrial inorganic chemicals, n.e.c.	80	2.5	-1.3	n.a.
2823,24	Synthetic fibers	77	6.3	2.8	3.5
2841	Soaps and detergents	43	0.6	3.3	n.a.
2844	Cosmetics and other toiletries	68	1.2	0.5	n.a.
2851	Paints and allied products	58	4.1	2.8	0.6
2869	Industrial organic chemicals, n.e.c.	123	3.9	1.1	-4.2
287	Agricultural chemicals	56	2.7	2.4	n.a.
2873	Nitrogenous fertilizers	11	3.0	4.0	n.a.
2874	Phosphatic fertilizers	10	1.0	3.1	n.a.
2875	Fertilizers, mixing only	10	4.1	0.3	n.a.
2879	Agricultural chemicals, n.e.c.	25	3.1	1.7	n.a.
2911	Petroleum refining	120	0.2	2.5	-1.3
3011	Tires and inner tubes	81	2.0	5.2	0.9
3052	Rubber and plastics hose and belting	24	0.4	1.6	n.a.
308	Miscellaneous plastics products, n.e.c.	614	0.2	2.9	-0.1
314	Footwear	68	0.3	-0.1	-2.3
3221	Glass containers	38	1.7	2.8	0.6
3241	Cement, hydraulic	18	-0.6	4.5	-9.8
325	Structural clay products	32	0.8	2.2	-8.2
3251,53,59	Clay construction products	26	0.2	2.5	-11.2
3251	Brick and structural clay tile	14	-0.9	0.8	-7.9
3253	Ceramic wall and floor tile	9	3.3	2.1	n.a.
3255	Clay refractories	6	2.8	1.0	6.3
3271,72	Concrete products	82	0.0	1.6	6.2
3273	Ready mixed concrete	92	-0.6	0.4	3.1
331	Steel	264	0.0	4.2	-4.0
3321	Gray and ductile iron foundries	76	0.4	1.3	-6.9
3324,25	Steel foundries	42	-0.2	-0.8	-7.9
3325	Steel foundries, n.e.c.	26	-0.1	0.5	-4.9
3331	Primary copper	5	3.8	7.0	2.5
3334	Primary aluminum	25	0.0	3.3	4.0
3351	Copper rolling and drawing	23	0.9	2.4	-0.6
3353,54,55	Aluminum rolling and drawing	57	1.1	1.5	n.a.
3411	Metal cans	39	4.1	3.5	6.0
3423	Hand and edge tools, n.e.c.	35	0.4	-1.0	n.a.
3433	Heating equipment, except electric	19	2.0	2.0	n.a.
3441	Fabricated structural metal	75	-1.7	1.2	n.a.
3442	Metal doors, sash, and trim	71	0.1	0.9	n.a.
3452	Bolts, nuts, rivets, and washers	47	1.1	1.6	n.a.
3465,66,69	Metal stampings	175	0.8	0.9	n.a.
3465	Automotive stampings	94	1.4	2.0	n.a.
3469	Metal stampings, n.e.c.	76	0.3	-0.2	n.a.
3491,92,94	Valves and pipe fittings	83	0.3	0.7	n.a.
3498	Fabricated pipe and fittings	24	-3.3	-1.1	n.a.
3519	Internal combustion engines, n.e.c.	62	1.3	1.6	-6.9
352	Farm and garden machinery	99	1.0	2.1	7.0
3523	Farm machinery and equipment	74	0.4	2.3	7.5
3524	Lawn and garden equipment	25	4.0	1.2	n.a.
3531	Construction machinery	78	1.1	2.0	n.a.
3532	Mining machinery	17	-2.1	1.3	6.7
3533	Oil and gas field machinery	45	0.0	-2.4	1.0
3541,42	Machine tools	59	-0.8	0.9	0.2
3541	Metal cutting machine tools	42	-0.4	1.0	3.8
3542	Metal forming machine tools	17	-2.3	0.8	-12.3
3545	Machine tool accessories	53	-0.8	0.6	n.a.
3561,63,94	Pumps and compressors	84	0.8	2.1	n.a.
3561,94	Pumps and pumping equipment	59	1.2	2.0	n.a.
3562	Ball and roller bearings	40	0.5	-1.2	1.4
3563	Air and gas compressors	25	-0.1	2.2	n.a.
3585	Refrigeration and heating equipment	115	-0.3	0.9	n.a.
3592	Carburetors, pistons, rings, and valves	22	-3.9	3.3	n.a.
3612	Transformers, except electronic	46	1.9	0.6	3.4
3613	Switch gear and switchboard apparatus	45	0.2	1.9	0.6
3621	Motors and generators	79	-0.2	1.4	1.2

See footnotes at end of table

Table1. Selected Industries: 1991 employment and average annual rates of change in output per hour, selected periods-Continued

SIC code	Industry	1991 Employment (thousands)	Average annual percent change in output per hour ¹		
			1973 to 1979	1979 to 1990	1990 to 1991
Manufacturing—Continued					
3631,32,33,39	Major household appliances	76	3.3	2.2	4.4
3631	Household cooking equipment	18	4.2	2.8	3.4
3632	Household refrigerators and freezers	26	2.7	2.1	6.4
3633	Household laundry equipment	21	3.4	1.9	-0.8
3639	Household appliances, n.e.c.	12	3.1	1.4	8.3
3641	Electric lamps	22	2.6	4.4	12.3
3645,46,47,48	Lighting fixtures and equipment	69	0.1	1.0	-2.3
3651	Household audio and video equipment	62	5.1	11.2	1.9
371	Motor vehicles and equipment	789	2.2	2.5	-4.2
3825	Instruments to measure electricity	85	1.7	3.3	n.a.
3861	Photographic equipment and supplies	99	4.9	1.7	n.a.
Transportation					
4011	Railroad transportation, revenue traffic	232	1.4	8.3	8.3
4011	Railroad transportation, car miles	232	0.3	6.0	3.0
411,13,14(parts)	Bus carriers, class I	16	-1.3	² -0.3	n.a.
4213	Trucking, except local ³	444	3.2	² 2.7	n.a.
4213(part)	Trucking, except local, general freight ³	275	4.0	² 3.0	n.a.
4512,13,22(parts)	Air transportation ³	559	4.8	1.3	1.4
4612,13	Petroleum pipelines	19	0.6	0.6	-3.3
Utilities					
481	Telephone communications	905	6.9	4.7	5.6
491,2,3	Gas and electric utilities	809	0.9	0.1	1.7
491,3(part)	Electric utilities	605	1.3	1.4	2.7
492,3(part)	Gas utilities	204	-0.2	-3.7	-1.3
Trade ⁴					
5093	Scrap and waste materials	108	n.a.	2.5	8.5
5251	Hardware stores	176	2.6	1.1	-7.6
5311	Department stores	2,047	3.1	2.2	5.3
5331	Variety stores	168	-2.7	1.1	-1.3
54	Food stores	3,430	-0.6	-0.9	0.2
5411	Grocery stores	3011	-0.3	-1.1	0.1
546	Retail bakeries	181	-1.9	-0.3	13.6
5511	New and used car dealers	886	0.3	2.0	-0.2
5531	Auto and home supply stores	365	2.3	2.5	0.6
5541	Gasoline service stations	690	3.7	2.5	-0.4
56	Apparel and accessory stores	1,241	2.1	2.3	-0.3
5611	Men's and boys' clothing stores	99	0.8	1.6	-0.4
5621	Women's clothing stores	408	3.6	3.1	1.6
5651	Family clothing stores	313	-0.1	2.7	0.9
5661	Shoe stores	219	2.0	1.3	-0.6
57	Home furniture, furnishings, and equipment stores	951	2.1	3.4	-1.3
571	Furniture and home furnishings stores	558	1.5	1.3	-4.8
572,3	Appliance, radio, T.V., and computer stores	393	3.0	6.4	3.0
5722	Household appliance stores	92	3.4	3.4	1.3
573	Radio, television, and computer stores	301	2.4	7.3	2.7
581	Eating and drinking places	6,785	-0.7	-0.5	3.5
5912	Drugstores and proprietary stores	635	1.1	0.5	4.7
5921	Liquor stores	146	-0.7	0.2	0.2
Services ⁴					
602	Commercial banks	1,539	0.6	2.2	n.a.
7011	Hotels and motels	1,583	1.1	-2.0	1.3
721	Laundry, cleaning, and garment services	490	-0.2	-1.0	-2.3
7231,41	Beauty and barbershops	762	1.1	1.0	0.5
7231	Beauty shops	679	0.3	1.2	-1.1
753	Automotive repair shops	816	-0.7	0.1	-6.0

n.a. = not available.

¹ Average annual percent change using compound rate formula.² 1979-89.³ Output per employee is used for SIC 4213, SIC 4213 (part), and SIC 4512, 13, 22 (parts).⁴ Output per hour of all persons is used for all trade service industries except SIC 5311, SIC 5511, and SIC 602.

Table 2. Iron mining, crude ore (SIC 1011): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.2	89.0	172.6	202.5	193.9	229.2	110.2
1968	92.6	96.7	185.1	199.8	191.5	223.9	115.4
1969	98.7	101.6	196.2	198.8	193.1	222.8	123.0
1970	99.0	102.5	201.8	203.9	196.9	227.2	125.7
1971	97.6	98.1	187.1	191.7	190.8	219.6	123.0
1972	107.0	107.7	179.3	167.6	166.5	190.4	110.2
1973	112.2	117.1	209.4	186.7	178.8	206.4	112.8
1974	106.9	115.5	208.2	194.8	180.3	209.7	110.2
1975	111.6	115.7	206.0	184.6	178.1	204.4	115.4
1976	112.5	116.2	215.6	191.7	185.5	213.2	120.5
1977	99.1	104.4	152.7	154.1	146.2	157.0	120.5
1978	114.4	121.8	223.3	195.2	183.3	210.7	118.0
1979	121.5	128.2	240.9	198.3	187.9	214.0	125.7
1980	123.6	120.8	197.6	159.9	163.6	179.6	125.7
1981	131.5	130.7	208.9	158.9	159.8	176.3	120.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	136.7	133.7	104.3	76.3	78.0	74.2	87.2
1984	169.4	165.0	142.6	84.2	86.4	89.2	79.5
1985	182.3	182.5	132.7	72.8	72.7	77.4	61.5
1986	192.2	194.3	105.9	55.1	54.5	58.1	46.2
1987	243.0	247.8	127.6	52.5	51.5	55.9	41.0
1988	260.8	270.7	157.8	60.5	58.3	66.6	38.4
1989	251.1	266.8	161.7	64.4	60.6	70.9	35.9
1990	229.3	245.9	156.4	68.2	63.6	72.0	43.6
Average annual percent change:							
1958-90	5.0	5.6	1.3	-3.6	-4.1	-4.2	-3.3
1979-90	5.9	6.1	-3.9	-9.2	-9.4	-9.4	-9.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 3. Iron mining, usable ore (SIC 1011): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	100.4	104.9	203.4	202.5	193.9	229.2	110.2
1968	108.2	112.8	216.1	199.8	191.5	223.9	115.4
1969	112.7	116.1	224.1	198.8	193.1	222.8	123.0
1970	113.2	117.3	230.9	203.9	196.9	227.2	125.7
1971	110.4	111.0	211.7	191.7	190.8	219.6	123.0
1972	120.4	121.2	201.8	167.6	166.5	190.4	110.2
1973	125.0	130.5	233.4	186.7	178.8	206.4	112.8
1974	115.9	125.2	225.8	194.8	180.3	209.7	110.2
1975	120.0	124.4	221.6	184.6	178.1	204.4	115.4
1976	118.2	122.1	226.5	191.7	185.5	213.2	120.5
1977	101.9	107.5	157.1	154.1	146.2	157.0	120.5
1978	120.1	127.9	234.5	195.2	183.3	210.7	118.0
1979	125.2	132.1	248.3	198.3	187.9	214.0	125.7
1980	125.6	122.8	200.9	159.9	163.6	179.6	125.7
1981	133.2	132.4	211.6	158.9	159.8	176.3	120.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	140.0	136.9	106.8	76.3	78.0	74.2	87.2
1984	172.4	168.1	145.2	84.2	86.4	89.2	79.5
1985	187.2	187.5	136.3	72.8	72.7	77.4	61.5
1986	195.1	197.2	107.5	55.1	54.5	58.1	46.2
1987	245.5	250.3	128.9	52.5	51.5	55.9	41.0
1988	254.5	264.2	154.0	60.5	58.3	66.6	38.4
1989	244.1	259.4	157.2	64.4	60.6	70.9	35.9
1990	221.1	237.1	150.8	68.2	63.6	72.0	43.6
Average annual percent change:							
1958-90	4.1	4.6	.4	-3.6	-4.1	-4.2	-3.3
1979-90	5.3	5.5	-4.4	-9.2	-9.4	-9.4	-9.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 4. Copper mining, crude ore (SIC 1021): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	58.6	65.6	68.6	117.0	104.6	107.3	96.8
1968	65.4	79.2	91.5	139.9	115.6	119.7	104.6
1969	73.1	86.6	119.7	163.8	138.3	151.2	103.0
1970	79.7	91.0	137.4	172.4	151.0	164.7	113.8
1971	81.4	91.1	128.6	158.0	141.1	148.3	121.4
1972	86.2	91.4	140.6	163.1	153.9	167.5	116.9
1973	86.4	91.1	151.2	174.9	166.0	181.6	123.0
1974	80.5	84.0	151.0	187.5	179.8	194.5	139.9
1975	81.8	83.4	133.7	163.4	160.4	168.6	138.4
1976	93.2	94.4	142.5	152.9	151.0	158.0	132.2
1977	94.0	93.2	126.9	137.2	138.3	143.9	123.0
1978	103.0	105.8	130.7	126.9	123.5	128.8	109.2
1979	102.4	110.9	152.0	148.4	137.1	143.9	118.3
1980	93.4	98.5	121.6	130.2	123.5	129.2	107.6
1981	95.8	103.0	152.4	159.1	148.0	156.3	126.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	121.0	124.9	97.2	80.3	77.8	75.8	83.1
1984	130.0	138.9	93.2	71.7	67.1	64.0	75.4
1985	153.9	165.3	89.1	57.9	53.9	52.8	56.9
1986	181.7	193.5	92.3	50.8	47.7	50.0	41.5
1987	179.1	198.5	107.8	60.2	54.3	59.0	41.5
1988	190.4	214.4	119.0	62.5	55.5	59.0	46.1
1989	187.9	220.8	126.3	67.2	57.2	62.4	43.0
1990	180.7	211.1	132.8	73.5	62.9	69.7	44.6
1991 ¹	187.5	219.7	147.2	78.5	67.0	75.3	44.6
Average annual percent change:							
1958-91	4.0	4.4	2.7	-1.2	-1.6	-1.6	-1.6
1979-90	5.3	6.0	-1.2	-6.2	-6.8	-6.4	-8.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior, and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 5. Copper mining, recoverable metal (SIC 1021): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	59.6	66.6	69.7	117.0	104.6	107.3	96.8
1968	63.0	76.3	88.2	139.9	115.6	119.7	104.6
1969	69.4	82.1	113.6	163.8	138.3	151.2	103.0
1970	73.7	84.1	127.0	172.4	151.0	164.7	113.8
1971	71.4	79.9	112.8	158.0	141.1	148.3	121.4
1972	75.8	80.4	123.7	163.1	153.9	167.5	116.9
1973	73.9	77.9	129.3	174.9	166.0	181.6	123.0
1974	64.7	67.5	121.4	187.5	179.8	194.5	139.9
1975	66.5	67.7	108.6	163.4	160.4	168.6	138.4
1976	81.6	82.6	124.8	152.9	151.0	158.0	132.2
1977	86.2	85.5	118.2	137.2	138.3	143.9	123.0
1978	92.7	95.2	117.6	126.9	123.5	128.8	109.2
1979	84.6	91.5	125.5	148.4	137.1	143.9	118.3
1980	78.8	83.1	102.6	130.2	123.5	129.2	107.6
1981	84.2	90.5	133.9	159.1	148.0	156.3	126.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	112.0	115.6	89.9	80.3	77.8	75.8	83.1
1984	132.5	141.6	95.0	71.7	67.1	64.0	75.4
1985	163.0	175.1	94.4	57.9	53.9	52.8	56.9
1986	191.5	204.0	97.3	50.8	47.7	50.0	41.5
1987	174.3	193.2	104.9	60.2	54.3	59.0	41.5
1988	191.2	215.3	119.5	62.5	55.5	59.0	46.1
1989	187.9	220.8	126.3	67.2	57.2	62.4	43.0
1990	182.2	212.9	133.9	73.5	62.9	69.7	44.6
1991 ¹	175.4	205.5	137.7	78.5	67.0	75.3	44.6
Average annual percent change:							
1958-91	3.2	3.7	2.0	-1.2	-1.6	-1.6	-1.6
1979-90	7.2	8.0	.6	-6.2	-6.8	-6.4	-8.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior, and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 6. Coal mining (SIC 12): Indexes of output per hour and related measures, 1967-C1
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	115.3	116.9	68.6	59.5	58.7	62.3	42.5
1968	120.3	120.8	67.5	56.1	55.9	58.9	42.3
1969	121.4	120.8	69.1	56.9	57.2	60.4	42.7
1970	118.4	120.6	73.9	62.4	61.3	65.5	42.7
1971	108.5	109.8	67.5	62.2	61.5	63.7	51.6
1972	104.0	106.2	72.2	69.4	68.0	72.2	49.2
1973	105.3	105.0	71.8	68.2	68.4	72.1	51.8
1974	102.7	96.3	73.1	71.2	75.9	79.7	58.7
1975	88.2	87.2	78.4	88.9	89.9	94.0	70.9
1976	86.4	86.2	82.0	94.9	95.1	99.1	77.0
1977	83.7	87.6	83.4	99.6	95.2	99.2	77.3
1978	89.2	90.4	80.1	89.8	88.6	89.3	85.4
1979	83.1	85.2	93.2	112.1	109.4	111.4	100.2
1980	94.2	95.3	99.2	105.3	104.1	105.3	98.6
1981	102.4	103.7	98.4	96.1	94.9	95.9	90.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	114.3	114.1	93.3	81.6	91.8	80.4	87.8
1984	127.0	125.3	106.8	84.1	82.6	81.8	86.3
1985	129.3	133.1	105.4	81.5	79.2	79.0	79.9
1986	140.3	142.8	106.1	75.6	74.3	74.3	74.5
1987	151.8	159.8	109.3	72.0	68.4	68.3	68.7
1988	168.4	177.4	113.0	67.1	63.7	63.6	64.3
1989	177.5	182.1	116.6	65.7	60.7	60.0	64.0
1990	180.4	197.6	122.3	67.8	61.9	61.2	65.0
1991 ¹	186.3	206.8	118.1	63.4	57.1	56.6	59.6
Average annual percent change:							
1958-91	2.9	3.9	2.4	-5	-1.4	-1.7	.7
1979-90	7.3	7.9	2.5	-4.5	-5.0	-5.3	-3.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 7. Bituminous coal and lignite mining (SIC 122): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	114.9	117.1	66.3	57.7	56.6	60.2	40.7
1968	120.0	120.7	65.4	54.5	54.2	57.2	40.7
1969	121.1	120.9	67.2	55.5	55.6	58.8	41.5
1970	118.4	120.5	72.2	61.0	59.9	64.0	41.5
1971	109.2	110.1	66.3	60.7	60.2	62.5	50.1
1972	103.9	105.9	71.4	68.7	67.4	71.6	48.4
1973	105.2	104.7	71.0	67.5	67.8	71.5	51.1
1974	102.4	95.8	72.3	70.6	75.5	79.4	58.3
1975	87.7	86.6	77.8	88.7	89.8	94.1	70.4
1976	85.8	85.6	81.3	94.8	95.0	99.2	76.3
1977	83.3	87.1	82.9	99.5	95.2	99.3	76.8
1978	89.0	90.1	79.8	89.7	88.6	89.3	85.2
1979	83.0	84.9	93.1	112.2	109.6	111.8	100.0
1980	93.9	94.8	96.8	105.2	104.2	105.4	98.5
1981	102.2	103.5	98.1	96.0	94.8	95.9	89.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	114.1	114.2	93.3	81.8	81.7	80.4	87.9
1984	127.0	129.4	106.9	84.2	82.6	81.9	85.9
1985	128.9	133.1	105.4	81.8	79.2	79.2	79.5
1986	140.2	142.9	106.3	75.8	74.4	74.4	74.1
1987	151.9	160.3	109.8	72.3	68.5	68.5	68.6
1988	170.2	179.0	113.5	66.7	63.4	63.4	63.4
1989	178.7	192.8	117.2	65.6	60.8	60.1	63.6
1990	181.0	198.2	123.1	68.0	62.1	61.5	64.6
1991 ¹	186.9	208.2	118.9	63.8	57.1	56.6	59.2
Average annual percent change:							
1958-91	3.0	3.9	2.7	-3	-1.1	-1.5	1.1
1979-90	7.3	8.0	2.6	-4.5	-5.0	-5.3	-3.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S.

Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 8. Crude petroleum and natural gas (SIC 1311): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	187.9	186.9	102.6	54.6	54.9	64.6	46.7
1968	197.6	196.5	106.7	54.0	54.3	62.4	47.5
1969	205.8	205.4	109.7	53.3	53.4	60.4	47.6
1970	217.4	216.2	114.8	52.8	53.1	59.9	47.4
1971	214.9	214.5	113.9	53.0	53.1	60.1	47.2
1972	216.3	216.8	113.8	52.6	52.5	58.7	47.3
1973	223.1	219.6	112.0	50.2	51.0	55.9	46.9
1974	207.4	201.5	106.6	51.4	52.9	57.0	49.5
1975	183.3	177.5	101.0	55.1	56.9	62.5	52.2
1976	169.3	167.0	98.7	58.3	59.1	66.5	53.0
1977	160.5	160.2	99.8	62.2	62.3	69.4	56.4
1978	153.8	154.0	103.2	67.1	67.0	72.0	62.9
1979	141.7	141.5	102.9	72.6	72.7	75.0	70.7
1980	125.1	124.5	102.8	82.2	82.6	82.2	82.8
1981	106.8	106.8	102.1	95.6	95.6	91.8	98.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.2	100.2	97.2	98.0	97.0	97.9	96.1
1984	105.1	105.9	101.2	96.3	95.6	95.6	95.6
1985	106.9	107.8	100.1	93.6	92.9	93.8	92.2
1986	116.6	118.1	97.1	83.3	82.2	85.9	79.1
1987	128.0	127.5	95.6	74.7	75.0	80.2	70.6
1988	129.0	128.7	95.1	73.7	73.9	79.9	68.9
1989	125.1	126.4	91.8	73.4	72.6	77.2	68.7
1990	124.0	126.0	91.0	73.4	72.2	77.3	68.0
1991 ¹	125.6	127.0	91.3	72.7	71.9	79.3	65.8
Average annual percent change:							
1959-91	.2	.3	.5	.2	.2	-.5	1.1
1979-90	-1.2	-1.0	-1.1	.1	-1	.3	-.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 9. Nonmetallic minerals, except fuels (SIC 14): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	87.0	92.1	100.4	115.4	109.0	118.1	80.8
1968	94.7	99.3	105.2	111.1	105.9	114.5	79.0
1969	97.1	103.6	108.6	111.8	104.8	113.5	77.4
1970	100.4	104.8	109.5	109.1	104.5	112.7	79.0
1971	99.6	104.6	109.4	109.8	104.6	111.7	82.6
1972	103.5	107.7	114.1	110.2	105.9	112.4	85.6
1973	106.9	116.0	125.4	115.2	108.1	114.5	87.9
1974	104.6	110.6	122.8	117.4	111.0	117.4	91.0
1975	101.3	104.1	110.7	109.3	106.3	110.9	92.0
1976	107.6	111.1	116.0	107.8	104.4	108.9	91.0
1977	111.8	116.6	123.1	110.1	105.6	110.5	91.0
1978	117.3	122.8	132.5	113.0	107.9	113.2	91.7
1979	114.9	120.9	136.4	118.7	112.8	118.3	95.9
1980	108.0	110.4	123.4	114.3	111.8	115.6	100.7
1981	106.0	106.8	115.3	108.8	108.0	109.4	104.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	110.0	111.9	106.4	96.7	95.1	94.9	95.5
1984	117.7	122.4	121.1	102.9	98.9	99.5	96.9
1985	119.9	124.2	124.7	104.0	100.4	100.7	99.1
1986	120.6	124.8	124.7	103.4	99.9	100.4	98.5
1987	127.6	133.8	134.2	105.2	100.3	101.7	95.9
1988	130.4	137.4	140.0	107.4	101.9	102.8	99.2
1989	130.1	136.9	139.1	106.9	101.6	102.2	99.6
1990	137.9	144.0	145.2	105.3	100.8	100.6	101.2
1991 ¹	132.3	135.7	129.9	98.2	95.7	94.3	100.0
Average annual percent change:							
1958-91	2.1	2.1	1.8	-.2	-.3	-.6	1.1
1979-90	1.7	1.6	.6	-1.1	-1.0	-1.5	.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 10. Crushed and broken stone (SIC 142): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	78.5	84.3	97.5	124.2	115.7	122.6	88.8
1968	85.4	91.1	104.0	121.8	114.2	121.3	87.4
1969	87.3	94.4	108.6	124.4	115.0	122.6	86.1
1970	88.2	92.9	109.7	124.4	118.1	123.8	95.8
1971	86.1	91.3	111.1	129.1	121.7	126.3	104.1
1972	90.8	94.5	117.1	129.0	123.9	130.0	99.9
1973	99.9	107.0	134.6	134.8	125.8	131.7	102.7
1974	97.7	104.2	133.5	136.6	128.1	133.2	108.3
1975	97.3	98.8	117.2	120.5	118.6	122.3	104.1
1976	99.4	102.2	116.7	117.4	114.2	118.6	97.2
1977	106.2	109.6	124.4	117.1	113.5	119.0	93.1
1978	115.0	120.3	136.3	118.5	113.3	119.8	88.8
1979	113.6	120.2	142.9	125.8	118.9	126.0	91.6
1980	107.5	110.1	126.4	117.6	114.8	120.5	93.1
1981	102.7	102.6	110.6	107.7	107.8	110.6	97.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	109.9	111.5	108.9	99.1	97.7	96.7	101.4
1984	111.7	116.7	119.7	107.2	102.6	102.9	101.4
1985	109.8	115.4	126.0	114.8	109.2	111.3	101.4
1986	109.9	115.6	128.6	117.0	111.2	112.8	105.6
1987	125.7	133.9	153.6	122.2	114.7	114.9	113.9
1988	126.9	135.1	158.8	125.1	117.5	116.4	122.2
1989	123.5	131.1	155.6	126.0	118.7	117.8	122.2
1990	138.8	145.3	170.7	123.0	117.5	114.6	129.2
1991 ¹	123.5	125.3	136.7	112.3	110.7	105.9	129.2
Average annual percent change:							
1958-91	2.4	2.4	2.2	-2	-2	-5	1.3
1979-90	1.8	1.7	1.6	-2	-1	-9	3.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the

Interior, the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 11. Red meat products (SIC 2011, 2013): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	66.7	68.7	76.0	114.0	110.6	106.0	128.2
1968	68.1	69.0	76.7	112.6	111.1	107.1	126.9
1969	67.4	68.4	75.7	112.3	110.6	106.4	126.5
1970	68.8	70.3	77.8	113.0	110.6	107.9	121.3
1971	70.6	72.5	81.2	115.0	112.0	111.2	115.3
1972	75.7	76.8	84.3	111.4	109.7	109.1	111.8
1973	73.7	74.4	77.7	105.4	104.5	102.9	111.4
1974	75.1	77.0	84.5	112.5	109.7	107.9	117.3
1975	75.2	76.0	81.7	108.7	107.5	105.1	116.4
1976	83.2	84.9	92.2	110.8	108.6	106.3	117.3
1977	89.1	90.0	99.3	111.5	110.3	108.7	116.8
1978	87.9	88.4	96.4	109.7	109.0	107.8	114.1
1979	90.4	91.7	97.2	107.5	106.0	105.1	109.0
1980	95.3	95.7	100.7	105.7	105.2	105.0	106.4
1981	96.1	96.7	99.8	103.8	103.2	103.5	102.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.7	104.3	102.8	99.1	98.6	98.0	100.7
1984	105.3	105.2	104.6	99.3	99.4	99.6	98.4
1985	108.4	108.9	106.8	98.5	98.1	98.4	97.1
1986	106.8	106.6	104.7	98.0	98.2	99.0	94.9
1987	108.6	110.1	112.9	104.0	102.5	102.4	102.9
1988	111.2	113.2	118.7	106.7	104.9	104.8	105.3
1989	102.6	104.2	111.2	108.4	106.7	106.4	107.5
1990	99.8	101.5	108.7	108.9	107.1	107.8	104.4
Average annual percent change:							
1967-90	1.8	1.7	1.6	-2	-1	.1	-9
1979-90	.9	.9	1.0	.1	.1	.2	-4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 12. Meat packing plants (SIC 2011): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.6	62.9	79.9	129.7	127.0	120.1	158.6
1968	63.6	64.0	80.7	126.9	126.1	119.5	156.2
1969	63.9	64.3	80.4	125.9	125.0	118.6	154.2
1970	65.9	67.0	82.6	125.4	123.2	118.9	143.2
1971	66.7	68.5	84.3	126.4	123.1	121.4	130.7
1972	72.8	73.5	86.5	118.8	117.7	116.9	122.1
1973	74.2	74.3	81.6	110.0	109.8	108.0	118.9
1974	73.7	75.0	87.5	118.9	116.8	115.1	125.4
1975	74.1	74.3	84.8	114.4	114.2	112.3	122.2
1976	81.6	82.4	95.6	117.1	116.0	113.7	126.2
1977	83.6	84.2	96.2	117.4	116.6	114.3	126.9
1978	84.4	84.6	96.4	114.2	114.0	112.1	123.6
1979	87.4	88.0	97.2	111.2	110.5	109.1	119.2
1980	91.1	91.3	99.5	109.2	109.0	108.6	111.1
1981	95.3	95.4	100.5	105.5	105.4	105.4	105.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.2	104.1	101.4	97.3	97.4	96.5	101.2
1984	107.2	106.2	104.3	97.3	98.2	98.7	95.5
1985	112.1	111.8	106.4	94.9	95.2	96.4	90.2
1986	109.7	108.8	101.8	92.8	93.6	95.4	84.8
1987	110.7	111.7	102.5	92.6	91.8	93.6	83.3
1988	111.3	112.0	105.6	94.9	94.3	96.3	85.2
1989	101.2	101.5	95.3	94.2	93.9	95.8	85.2
1990	100.8	100.6	93.5	92.8	92.9	95.5	80.7
1991 ¹	102.6	102.1	95.5	93.1	93.5	97.0	77.2
Average annual percent change:							
1967-91	2.1	2.0	.7	-1.4	-1.3	-.9	-3.0
1979-90	1.3	1.2	-.4	-1.6	-1.6	-1.2	-3.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 13. Sausages and other prepared meats (SIC 2013): Indexes of output per hour and related measures, 1967-90
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	82.1	85.2	65.7	80.0	77.1	74.3	84.9
1968	81.7	82.5	66.4	81.3	80.5	78.9	85.4
1969	76.4	77.6	63.0	82.5	81.2	79.1	87.6
1970	75.6	76.5	64.9	85.9	84.8	83.0	90.2
1971	81.6	82.1	73.3	89.8	89.3	88.0	93.5
1972	83.1	84.7	79.2	95.3	93.5	92.1	97.8
1973	71.5	72.3	68.0	95.1	94.0	91.7	100.9
1974	79.6	81.2	77.5	97.4	95.5	91.8	105.9
1975	77.6	79.3	74.4	95.9	93.8	89.1	106.9
1976	87.3	89.8	84.2	96.4	93.8	90.0	104.7
1977	103.4	104.3	102.0	98.6	97.8	96.1	102.6
1978	97.1	97.2	96.2	99.1	99.0	98.4	100.9
1979	98.5	99.7	96.8	98.3	97.1	96.6	98.8
1980	106.0	105.9	103.6	97.7	97.8	97.2	100.0
1981	98.5	98.7	97.7	99.2	99.0	99.4	97.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.1	104.4	105.5	102.3	101.1	101.5	100.0
1984	102.6	103.3	105.4	102.7	102.0	101.7	102.6
1985	101.6	103.4	107.6	105.9	104.1	102.9	106.9
1986	101.5	102.7	110.7	109.1	107.8	107.3	109.0
1987	105.5	108.5	135.0	128.0	124.4	122.2	130.5
1988	111.3	115.5	146.3	131.4	126.7	124.3	133.8
1989	104.3	108.8	144.5	138.5	132.8	130.7	139.2
1990	98.2	102.9	140.4	143.0	136.4	135.8	138.1
Average annual percent change:							
1967-90	.8	.8	3.4	2.8	2.5	2.7	2.1
1979-90	.0	.3	3.4	3.5	3.1	3.1	3.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 14. Poultry dressing and processing plants (SIC 2015): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	64.2	65.6	47.5	74.0	72.4	73.0	64.7
1968	61.8	62.5	46.5	75.2	74.4	74.6	70.7
1969	61.1	62.7	49.0	80.2	78.2	78.6	72.5
1970	62.3	64.6	51.0	81.8	78.9	79.5	73.3
1971	68.1	68.5	52.4	77.0	76.5	76.7	74.2
1972	70.2	72.9	57.1	81.3	78.3	78.8	73.3
1973	61.6	62.9	51.4	83.4	81.7	82.2	75.8
1974	69.6	70.8	57.8	83.1	81.6	80.6	88.8
1975	69.9	69.5	54.4	77.8	78.3	76.9	90.6
1976	78.5	78.3	64.5	82.2	82.4	80.3	100.8
1977	79.4	78.4	65.2	82.1	83.2	82.4	89.7
1978	80.9	80.1	69.7	86.2	87.0	87.1	82.8
1979	84.5	84.6	78.1	92.4	92.3	91.8	95.7
1980	84.2	83.4	83.4	99.1	100.0	99.3	105.2
1981	92.6	90.8	92.0	99.4	101.6	102.4	93.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.8	105.5	104.0	99.2	98.6	98.3	101.7
1984	104.1	104.9	99.9	96.0	95.2	94.6	100.8
1985	106.2	107.3	106.2	100.0	99.0	98.9	99.0
1986	101.6	101.5	111.8	110.0	110.2	108.7	123.3
1987	108.2	110.4	138.5	128.0	125.5	123.8	138.7
1988	103.1	109.0	143.5	139.2	131.7	129.7	149.2
1989	108.3	115.5	160.1	147.8	138.6	136.8	153.5
1990	114.8	118.9	172.9	150.6	145.4	142.9	187.5
Average annual percent change:							
1963-90	2.5	2.7	6.1	3.5	3.4	3.3	4.3
1979-90	2.8	3.1	7.5	4.5	4.2	4.1	5.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 15. Dairy products (SIC 202): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	51.6	52.5	85.1	164.8	162.0	133.0	199.3
1968	56.1	54.7	85.0	151.5	155.4	129.9	188.3
1969	58.3	57.1	85.4	148.5	149.6	125.2	181.0
1970	60.2	59.2	85.7	142.4	144.7	122.2	173.7
1971	64.9	64.3	88.8	136.8	138.0	118.5	163.1
1972	69.6	70.0	91.1	130.9	130.2	115.8	148.7
1973	71.5	72.1	89.8	125.8	124.5	112.1	140.4
1974	74.5	75.3	90.6	121.6	120.3	109.4	134.4
1975	78.1	79.0	91.9	117.7	116.3	105.8	130.0
1976	80.6	81.4	93.3	115.8	114.6	105.3	126.5
1977	81.4	82.9	93.4	114.8	112.7	104.8	122.8
1978	84.9	85.4	94.1	110.9	110.2	103.3	119.0
1979	87.3	87.6	94.7	108.5	108.1	103.2	114.3
1980	91.1	91.9	96.5	105.9	105.0	102.6	108.3
1981	96.4	96.6	98.5	102.2	102.0	100.1	104.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	105.1	105.3	104.0	99.0	98.8	100.6	96.4
1984	107.0	107.2	105.2	98.3	98.1	101.4	93.8
1985	109.6	110.6	108.1	98.6	97.7	102.7	91.2
1986	113.6	114.3	111.4	98.1	97.5	103.0	89.3
1987	117.6	118.4	114.4	97.3	96.6	104.6	86.2
1988	122.3	122.7	116.9	95.6	95.3	102.5	86.0
1989	120.8	121.1	114.6	94.9	94.6	102.7	84.2
1990	122.5	123.3	115.3	94.1	93.5	101.8	82.8
1991 ¹	123.3	124.1	116.3	94.3	93.7	102.7	82.1
Average annual percent change:							
1967-91	3.7	3.6	1.3	-2.3	-2.3	-1.1	-3.6
1979-90	3.1	3.2	1.8	-1.3	-1.3	-1.1	-2.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the National Agricultural Statistics Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of Labor Statistics.

Table 16. Cheese, natural and processed (SIC 2022): Indexes of output per hour and related measures, 1972-90
(1982=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	77.3	78.8	59.2	76.6	75.1	80.7	57.8
1973	78.2	80.2	61.1	78.1	76.2	81.8	58.9
1974	85.2	87.9	68.4	80.3	77.8	82.2	64.4
1975	87.5	90.9	70.3	80.3	77.3	80.4	67.8
1976	87.8	90.8	75.5	86.0	83.3	86.2	74.4
1977	83.1	86.0	73.5	88.4	85.5	88.4	76.7
1978	82.2	83.3	74.0	90.0	88.8	91.6	80.0
1979	82.7	83.4	77.7	93.9	95.2	96.4	83.3
1980	87.2	87.8	86.1	96.7	96.1	100.4	91.1
1981	97.8	97.8	95.9	98.3	98.1	99.3	94.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	96.1	95.7	100.4	104.5	104.9	106.2	101.1
1984	93.1	93.5	99.1	106.4	106.0	106.9	103.3
1985	96.0	96.7	104.3	108.6	107.9	110.9	98.9
1986	103.1	103.1	113.5	110.1	110.1	111.6	105.6
1987	110.4	110.6	124.9	113.1	112.9	115.6	104.4
1988	109.3	109.3	125.8	115.1	115.1	116.7	110.0
1989	107.7	108.0	124.5	115.6	115.3	117.5	108.9
1990	115.7	116.1	132.4	114.4	114.0	116.7	105.6
Average annual percent change:							
1972-90	2.3	2.2	4.8	2.3	2.3	2.1	3.4
1979-90	3.1	3.1	5.0	1.8	1.8	1.8	2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 17. Fluid milk (SIC 2026): Indexes of output per hour and related measures, 1967-91
(1982=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	46.4	47.0	96.9	208.7	206.1
1968	49.0	48.7	96.5	196.8	196.2
1969	51.3	50.9	96.8	188.6	190.3
1970	54.4	54.0	98.1	180.2	181.7
1971	58.7	58.5	100.0	170.4	170.9
1972	62.9	63.3	101.7	161.7	160.7
1973	65.3	66.0	99.3	152.0	150.4
1974	67.1	67.8	97.1	144.7	143.2
1975	70.4	71.3	98.2	139.4	137.8
1976	73.6	74.3	99.5	135.2	133.9
1977	73.8	75.6	98.8	133.9	130.7
1978	79.6	80.4	100.4	126.1	124.8
1979	85.4	85.9	100.3	117.5	116.8
1980	91.4	92.2	100.4	109.8	108.9
1981	94.5	94.5	98.4	104.1	104.1
1982	100.0	100.0	100.0	100.0	100.0
1983	105.3	105.7	101.4	96.3	95.9
1984	109.4	110.0	103.3	94.4	93.9
1985	112.8	114.3	105.5	90.5	92.3
1986	117.8	119.4	106.5	90.4	89.2
1987	122.4	124.0	106.0	86.6	85.5
1988	127.3	127.9	105.5	82.9	82.5
1989	130.6	131.4	106.3	81.4	80.9
1990	131.9	132.4	105.4	79.9	79.6
1991 ¹	135.3	136.0	106.5	78.7	78.3
Average annual percent change:					
1967-91	4.1	4.1	6	-3.4	-3.4
1979-90	4.0	4.0	5	-3.4	-3.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Economic Research Service, U.S. Department of Agriculture, and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 18. Preserved fruits and vegetables (SIC 203): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	68.4	70.6	71.1	103.9	100.7	105.4	77.4
1968	70.1	70.2	72.8	103.8	103.7	108.2	81.9
1969	71.4	72.1	75.6	105.9	104.9	109.3	83.6
1970	73.9	74.3	75.7	102.5	101.9	105.0	86.4
1971	77.1	78.4	80.4	104.3	102.5	105.3	89.3
1972	78.4	79.8	84.7	108.0	106.2	109.4	90.9
1973	86.3	87.6	93.3	108.1	106.5	108.8	95.5
1974	85.0	86.5	90.3	106.2	104.4	108.1	86.5
1975	86.8	87.4	88.3	101.7	101.0	104.5	83.6
1976	92.8	92.0	92.6	99.8	100.7	104.1	84.4
1977	92.8	93.4	99.8	107.6	106.9	108.9	96.8
1978	96.8	96.6	106.4	110.2	110.1	113.2	96.2
1979	91.8	92.5	102.7	111.9	111.0	113.1	101.6
1980	93.5	95.6	101.6	108.9	106.5	107.1	103.6
1981	91.9	93.7	97.0	105.5	103.5	104.7	98.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.7	103.6	101.1	98.4	97.6	97.2	99.7
1984	104.3	105.2	104.9	100.6	99.7	100.1	97.9
1985	105.5	104.4	105.0	99.5	100.6	100.4	101.9
1986	110.1	107.8	108.3	98.4	100.5	99.9	103.3
1987	111.6	112.3	111.6	100.0	99.4	98.9	101.9
1988	110.0	111.0	112.7	102.5	101.5	100.1	106.2
1989	108.9	111.8	117.2	107.6	104.8	104.2	108.2
1990	108.8	113.1	120.0	110.3	106.1	106.7	103.2
Average annual percent change:							
1947-90	2.5	2.5	3.0	.5	.5	.3	1.6
1979-90	1.6	1.6	1.4	-.1	-.4	-.5	.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Canners Association; U.S. Department of Agriculture; the Bureau of Labor Statistics; the Bureau of Competitive

Assessment and Business Policy; the National Oceanic and Atmospheric Administration, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 19. Canned fruits and vegetables (SIC 2033): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	66.3	69.0	97.9	147.7	141.0	146.4	114.3
1968	66.1	65.8	97.1	146.9	147.5	152.3	117.4
1969	69.0	69.4	99.9	144.8	144.0	148.9	113.3
1970	70.4	68.7	95.2	135.3	136.6	139.9	116.4
1971	72.5	73.4	98.0	135.2	133.6	136.7	115.4
1972	77.8	77.8	99.0	127.2	127.3	129.7	112.3
1973	86.8	87.1	109.5	126.1	125.7	128.3	108.1
1974	85.9	86.7	105.0	122.3	121.1	126.7	86.8
1975	84.9	85.7	101.6	119.7	118.6	123.4	88.8
1976	94.2	90.7	105.7	112.2	116.5	120.8	90.9
1977	92.0	91.6	107.3	116.6	117.2	119.7	102.1
1978	95.7	93.2	109.3	114.2	117.3	120.5	98.0
1979	92.9	95.2	111.4	118.6	117.0	117.6	112.3
1980	93.4	94.3	106.7	114.2	113.1	112.6	117.4
1981	92.7	92.2	102.3	110.3	111.0	112.3	102.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	105.3	105.1	97.2	92.3	92.5	91.6	98.0
1984	107.5	107.2	105.1	97.8	98.0	96.4	107.2
1985	114.2	112.5	107.9	94.5	95.9	94.4	105.1
1986	123.2	117.8	112.7	91.5	95.7	94.6	102.1
1987	125.4	125.8	116.1	92.6	92.3	91.4	98.0
1988	122.8	124.4	118.1	96.2	94.9	93.4	103.8
1989	114.2	118.5	119.6	104.7	100.9	101.0	101.7
1990	117.5	123.3	126.0	107.2	102.2	103.7	94.4
Average annual percent change:							
1958-90	3.8	2.9	1.6	-1.1	-1.3	-1.3	-1.0
1979-90	2.1	2.4	1.1	-.9	-1.2	-1.1	-1.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 20. Frozen fruits and vegetables (SIC 2037): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	78.7	83.3	74.8	95.1	89.8	90.6	83.7
1973	82.0	86.4	79.8	97.3	92.4	92	93.5
1974	84.7	88.3	82.0	96.8	92.9	94.7	85.4
1975	90.2	89.0	79.9	88.6	89.8	90.8	82.2
1976	95.2	97.2	82.0	86.1	84.4	84.8	82.2
1977	88.6	90.0	88.3	99.7	98.1	100.0	85.4
1978	97.3	102.8	100.0	102.8	97.7	99.3	93.7
1979	88.5	87.3	95.0	107.3	108.8	110.1	100.0
1980	89.6	95.1	95.8	106.9	100.7	99.3	109.7
1981	88.1	93.2	95.4	108.3	102.4	102.9	98.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.3	99.4	98.6	97.3	99.2	98.6	103.2
1984	102.1	102.0	100.3	98.2	98.3	99.3	91.9
1985	98.1	96.5	93.2	95.0	96.6	96.9	95.1
1986	103.9	99.3	96.6	93.0	97.3	96.6	101.6
1987	101.9	100.8	105.2	103.2	104.4	103.1	112.9
1988	99.7	98.9	104.9	105.2	106.1	104.5	116.6
1989	99.8	100.7	108.6	108.8	107.8	106.9	112.9
1990	96.3	98.2	106.3	110.4	108.2	106.0	124.2
Average annual percent change:							
1972-90	1.1	.9	2.0	.8	1.0	.9	2.2
1979-90	.8	1.1	1.0	.3	-.1	-.3	2.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 21. Grain mill products (SIC 204): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	60.3	62.3	64.9	107.6	104.1	104.5	102.6
1968	63.6	64.9	66.4	104.4	102.3	102.7	101.4
1969	64.7	66.5	69.4	107.2	104.4	104.5	104.2
1970	65.9	67.0	70.4	106.8	105.1	106.4	102.5
1971	68.9	69.8	70.0	101.6	100.3	102.4	95.8
1972	70.6	73.5	76.1	107.8	103.6	105.0	100.0
1973	67.5	72.2	74.1	108.7	102.6	104.5	98.6
1974	71.4	73.2	77.6	108.7	106.0	107.8	101.7
1975	72.1	74.4	78.9	109.5	106.1	108.3	101.2
1976	75.3	77.5	82.6	109.7	106.6	107.5	103.9
1977	82.7	83.9	88.1	106.5	105.0	106.4	102.0
1978	82.8	83.8	90.5	109.3	108.0	108.7	106.3
1979	83.4	85.3	90.7	108.8	106.3	108.4	101.7
1980	87.0	88.5	93.8	107.8	106.0	107.4	102.8
1981	91.7	94.6	96.3	105.0	101.8	102.0	100.9
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.3	103.8	102.3	99.0	98.6	99.4	99.0
1984	109.3	109.2	104.2	95.3	95.4	94.4	97.9
1985	115.8	115.8	107.1	92.5	92.5	90.6	96.9
1986	116.7	118.4	106.9	91.6	90.3	88.1	95.5
1987	123.5	126.7	117.1	94.8	92.4	90.8	96.1
1988	123.6	128.1	118.4	95.8	92.4	91.6	94.2
1989	123.2	128.6	119.3	96.8	92.8	90.6	97.9
1990	128.6	134.2	124.4	96.7	92.7	91.2	96.1
Average annual percent change:							
1963-90	3.5	3.5	3.0	-.5	-.5	-.5	-.3
1979-90	4.0	4.2	2.9	-1.1	-1.2	-1.6	-.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, Agricultural Marketing

Service, U.S. Department of Agriculture, the Rice Millers' Association, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 22. Flour (including flour mixes) and other grains (SIC 2041, 2045): Indexes of output per hour and related measures, 1967-90
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	69.5	72.7	93.0	133.8	128.0	125.3	135.1
1968	72.4	75.4	93.7	129.4	124.2	122.3	129.9
1969	71.7	74.5	94.3	131.6	126.5	124.0	133.4
1970	75.0	77.4	92.6	123.5	119.7	116.6	128.1
1971	76.6	79.5	88.2	114.8	111.0	110.6	112.3
1972	76.9	81.8	89.7	116.6	109.6	106.7	112.3
1973	77.2	82.8	95.0	123.1	114.7	115.5	112.3
1974	83.3	85.6	98.8	118.6	115.1	116.1	112.3
1975	81.9	84.4	99.8	121.9	118.3	116.6	122.9
1976	82.7	85.7	100.6	121.7	117.4	111.7	133.4
1977	89.0	91.8	100.6	113.0	109.6	105.5	121.2
1978	87.3	90.7	99.9	114.4	110.1	107.5	117.7
1979	84.7	90.6	98.9	116.9	109.2	106.9	115.9
1980	87.5	91.3	98.4	112.5	107.8	106.1	112.3
1981	88.2	93.1	99.5	112.8	106.9	105.0	112.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.5	106.4	106.4	102.8	100.0	97.8	106.0
1984	106.9	108.2	104.3	97.6	96.4	95.7	98.6
1985	107.8	108.8	104.1	96.6	95.7	93.5	101.5
1986	110.1	111.0	107.9	98.0	97.2	95.1	103.1
1987	113.6	116.7	117.2	103.2	100.4	97.3	109.1
1988	116.9	122.1	121.6	104.0	99.6	96.7	107.5
1989	115.6	121.5	118.6	102.6	97.6	93.5	109.1
1990	122.7	128.2	123.2	100.4	96.1	94.1	101.6
Average annual percent change:							
1963-90	2.8	2.7	1.4	-1.4	-1.3	-1.3	-1.2
1979-90	3.4	3.2	2.0	-1.4	-1.2	-1.2	-1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 23. Flour and other grain mill products (SIC 2041): Indexes of output per hour and related measures, 1967-90
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	67.9	70.4	95.5	140.7	135.7	129.7	154.2
1968	71.8	73.8	96.6	134.9	131.1	126.3	146.0
1969	70.2	71.9	95.3	135.7	132.6	127.2	148.6
1970	73.7	75.6	95.3	129.3	125.8	120.1	143.4
1971	74.7	76.6	91.3	122.3	119.2	115.8	129.9
1972	77.6	81.4	86.8	111.8	106.6	104.3	113.6
1973	77.4	80.6	90.7	117.2	112.5	111.3	116.4
1974	81.2	82.5	95.1	117.1	115.3	113.9	119.1
1975	82.5	83.2	97.4	118.0	117.1	113.1	129.9
1976	81.8	82.4	95.5	116.7	115.0	109.6	135.2
1977	96.3	97.6	100.8	104.7	103.3	99.1	116.4
1978	97.1	99.6	99.6	102.6	100.0	97.3	108.1
1979	93.6	97.6	98.9	105.7	101.3	98.2	110.6
1980	91.1	95.6	98.2	107.8	102.7	99.1	113.6
1981	93.0	97.1	101.6	109.3	104.6	101.6	113.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	105.2	108.5	105.7	100.5	97.4	95.6	102.8
1984	108.5	109.8	101.1	93.2	92.1	90.4	97.3
1985	114.6	115.6	101.8	88.7	88.1	86.0	94.6
1986	116.9	118.1	105.6	90.3	89.4	86.8	97.3
1987	122.6	124.4	109.6	89.4	88.1	86.8	91.9
1988	126.5	131.0	111.1	87.8	84.8	84.2	86.5
1989	126.0	130.2	106.1	84.2	81.5	79.0	89.2
1990	133.1	136.1	110.9	83.3	81.5	79.8	86.5
Average annual percent change:							
1947-90	3.1	2.9	.1	-2.9	-2.7	-2.8	-2.3
1979-90	3.3	3.1	1.0	-2.1	-2.0	-1.9	-2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 24. Cereal breakfast foods (SIC 2043): Indexes of output per hour and related measures, 1967-96
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	75.5	75.7	59.2	78.4	78.2	78.8	75.0
1968	76.3	79.7	56.2	74.3	73.0	72.6	75.0
1969	77.2	79.5	58.6	75.9	73.7	73.4	75.0
1970	80.0	81.1	62.4	78.0	76.9	77.3	75.0
1971	80.2	82.2	65.9	82.2	80.2	80.5	78.7
1972	85.1	86.2	71.2	83.7	82.6	83.4	78.7
1973	84.0	89.6	75.3	89.6	84.0	85.9	75.0
1974	80.0	83.6	74.4	93.0	89.0	86.6	82.1
1975	82.4	88.1	78.4	95.2	89.0	90.6	82.1
1976	87.0	88.7	85.3	98.0	96.2	98.5	85.7
1977	88.8	90.5	95.1	109.5	105.1	107.8	93.0
1978	88.2	89.4	95.1	107.8	106.4	109.2	93.0
1979	93.2	93.0	99.3	108.5	104.2	110.0	78.7
1980	92.2	94.8	96.6	104.8	101.9	107.0	78.7
1981	95.1	98.1	98.1	103.2	100.0	104.5	78.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.3	105.0	109.7	105.2	104.5	103.9	107.2
1984	114.7	116.6	121.0	105.5	103.8	103.1	107.2
1985	119.6	122.8	128.3	107.3	104.5	103.9	107.2
1986	121.1	126.3	132.6	109.5	105.0	103.9	110.8
1987	122.4	131.4	134.8	110.1	102.6	102.2	103.6
1988	120.7	132.7	139.5	115.6	105.1	107.0	98.5
1989	117.4	132.0	125.4	115.3	102.6	100.1	100.1
1990	124.7	136.3	140.7	112.4	103.2	102.2	107.2
Average annual percent change:							
1963-90	2.2	2.5	3.9	1.6	1.3	1.2	1.5
1979-90	2.7	3.3	3.2	5	-1	-2	2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 25. Rice milling (SIC 2044): Indexes of output per hour and related measures, 1967-90
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	77.9	83.6	62.7	80.5	75.0	72.7	83.3
1968	84.2	87.5	65.6	77.9	75.0	72.7	83.3
1969	81.3	85.5	64.1	78.8	75.0	72.7	83.3
1970	78.4	83.3	62.5	79.7	75.0	68.2	100.0
1971	79.5	83.9	57.0	71.7	67.9	63.6	83.3
1972	89.8	94.5	67.5	75.2	71.4	64.2	83.3
1973	78.1	83.2	58.0	74.3	69.7	65.9	83.3
1974	89.5	87.7	68.9	77.0	78.6	79.5	75.0
1975	86.6	88.7	69.7	80.5	78.6	79.5	75.0
1976	84.9	83.3	69.9	82.3	83.0	86.4	75.0
1977	95.8	97.9	83.9	87.6	95.7	90.9	86.7
1978	88.8	90.8	82.6	93.0	91.0	86.4	108.3
1979	92.4	92.3	90.6	98.1	98.2	93.2	116.7
1980	106.9	109.8	109.8	102.7	100.0	95.5	116.7
1981	113.0	121.9	110.9	98.1	91.0	93.2	83.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	98.2	98.3	94.8	96.5	96.4	93.2	108.3
1984	88.5	89.2	81.3	91.9	91.1	84.1	116.7
1985	97.1	96.2	84.2	86.7	87.5	78.5	116.7
1986	105.5	107.6	96.1	91.1	89.3	88.6	91.7
1987	125.9	127.5	102.5	81.4	80.4	79.5	83.3
1988	105.4	111.3	89.5	84.9	80.4	79.5	83.3
1989	124.2	128.4	107.7	86.7	83.0	84.0	83.3
1990	134.5	142.6	109.5	81.4	78.6	79.5	86.7
Average annual percent change:							
1963-90	3.1	3.1	3.1	0	0	3	-1.2
1979-90	3.5	4.0	1.7	-1.7	-0.2	-1.4	-5.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, Agricultural Marketing

Service, U.S. Department of Agriculture, the Rice Millers' Association, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 26. Wet corn milling (SIC 2046): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	32.4	32.5	48.2	148.9	148.4	146.2	153.6
1968	35.0	34.2	50.8	145.1	148.4	147.8	150.1
1969	37.1	37.6	53.4	144.1	142.0	140.4	146.5
1970	34.4	35.1	49.8	144.7	142.0	138.8	150.1
1971	34.6	34.0	46.5	133.7	136.8	134.2	142.9
1972	45.1	44.7	56.9	126.2	127.3	125.4	132.1
1973	41.1	41.4	51.0	124.1	123.2	122.5	125.1
1974	51.3	51.6	60.2	117.3	116.7	114.9	121.5
1975	53.4	54.1	62.1	116.3	114.7	117.9	107.2
1976	60.0	60.5	70.0	116.7	115.7	119.3	107.2
1977	72.1	71.1	81.5	113.1	114.7	116.4	110.7
1978	75.0	72.7	84.8	113.1	116.7	120.8	107.2
1979	76.1	74.4	84.5	111.0	113.6	112.0	117.9
1980	87.1	84.2	94.8	108.9	112.6	113.4	110.7
1981	99.2	97.3	106.5	107.4	109.4	110.5	107.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	113.1	116.2	108.9	96.3	93.7	94.0	93.0
1984	138.3	141.6	125.2	90.5	88.4	88.1	89.3
1985	143.9	148.0	135.6	94.2	91.6	91.0	93.0
1986	158.1	164.8	144.0	91.1	87.4	83.6	96.4
1987	170.3	178.2	161.3	94.7	90.5	88.1	96.4
1988	162.4	171.3	165.8	102.1	96.8	89.6	114.3
1989	168.1	178.1	174.2	103.6	97.8	89.6	117.8
1990	170.5	182.5	178.5	104.7	97.8	89.6	117.8
Average annual percent change:							
1963-90	6.9	7.1	5.7	-1.1	-1.3	-1.8	-1
1979-90	7.6	8.5	7.0	-5	-1.4	-2.0	.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Corn Refiners Association, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 27. Prepared feeds for animals and fowls (SIC 2047, 2048): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	60.1	62.5	60.6	100.8	97.0	100.3	91.7
1968	63.4	64.6	62.4	98.5	96.6	99.7	91.7
1969	65.6	66.9	67.4	102.7	100.8	104.1	95.6
1970	67.0	67.5	70.1	104.7	103.9	110.6	92.7
1971	72.0	72.3	71.6	99.4	99.0	105.4	87.6
1972	69.7	73.1	77.6	111.4	106.1	112.2	96.0
1973	65.7	71.2	73.3	111.5	103.0	107.7	95.0
1974	68.0	70.0	75.6	111.1	108.0	112.4	100.5
1975	68.8	71.0	76.2	110.7	107.3	112.2	99.0
1976	72.1	74.9	79.1	109.7	105.6	109.4	99.0
1977	80.1	80.8	83.5	104.2	103.4	106.0	99.0
1978	80.2	81.2	87.7	109.3	108.0	109.3	105.8
1979	81.1	82.5	87.0	107.3	105.4	109.3	99.0
1980	84.0	84.9	89.9	107.0	105.9	108.2	102.0
1981	88.6	91.3	91.3	103.0	100.0	99.1	101.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.8	100.8	98.1	96.4	97.3	98.0	98.0
1984	106.0	104.2	98.2	92.6	94.2	92.9	96.4
1985	115.0	113.1	99.9	86.9	88.3	85.4	93.6
1986	112.0	112.3	94.0	83.9	83.7	79.3	91.1
1987	120.2	121.2	105.9	88.1	87.4	85.0	91.6
1988	122.2	123.2	105.8	86.6	85.9	85.0	87.6
1989	120.7	122.2	107.3	88.9	87.8	85.3	92.0
1990	124.5	127.0	112.9	90.7	88.9	87.3	91.6
Average annual percent change:							
1963-90	3.5	3.4	3.0	-5	-4	-5	-3
1979-90	4.0	4.0	2.4	-1.5	-1.5	-2.0	-7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 28. Bakery products (SIC 2051, 2052): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	80.3	80.1	97.7	121.7	121.9	128.6	113.3
1968	81.8	82.6	98.2	120.1	118.9	126.2	109.7
1969	82.0	82.3	100.6	122.7	122.2	130.5	111.3
1970	84.8	85.4	96.7	114.1	113.2	121.7	102.1
1971	86.7	87.9	96.2	110.9	109.4	115.7	101.1
1972	91.2	92.9	100.6	110.3	108.3	114.9	99.6
1973	90.6	92.6	99.7	110.0	107.7	114.8	98.2
1974	90.5	90.6	98.5	108.8	108.7	112.7	103.2
1975	90.4	90.7	99.1	109.6	109.3	112.9	104.6
1976	90.8	91.6	102.2	112.5	111.6	116.5	105.2
1977	96.8	97.4	99.8	103.1	102.5	105.9	97.8
1978	94.8	94.9	99.3	104.8	104.6	106.9	101.6
1979	92.1	92.9	99.3	107.8	106.9	111.2	101.0
1980	90.7	92.0	97.5	107.5	106.0	111.8	98.4
1981	93.2	94.9	97.7	104.8	102.9	107.5	96.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.0	103.8	99.0	95.2	95.4	96.7	93.7
1984	104.4	104.7	101.1	96.8	96.6	97.4	95.6
1985	106.4	106.8	103.0	96.8	96.4	95.1	98.3
1986	112.6	113.3	103.8	92.2	91.6	92.8	90.1
1987	111.4	111.5	106.7	95.8	95.7	97.0	93.9
1988	103.3	103.4	100.2	97.0	96.9	97.3	96.2
1989	103.0	103.2	97.1	94.3	94.1	94.8	93.1
1990	104.6	105.4	96.2	92.0	91.3	94.9	86.5
1991 ¹	104.8	105.0	96.3	91.9	91.7	95.8	85.9
Average annual percent change:							
1947-91	1.6	1.4	.6	-.9	-.8	-1.0	-.3
1979-90	1.2	1.2	-.3	-1.4	-1.4	-1.4	-1.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 29. Sugar (SIC 2061, 2062, 2063): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.4	85.8	106.3	124.5	123.9	129.6	103.9
1968	89.0	90.0	111.2	124.9	123.6	130.1	100.3
1969	86.9	86.2	109.2	125.6	126.7	133.1	103.9
1970	95.0	94.2	115.9	122.0	123.1	130.1	98.6
1971	93.8	98.0	116.0	123.7	118.4	123.8	98.6
1972	100.0	103.0	122.0	122.0	118.4	123.3	100.3
1973	106.5	112.0	123.5	116.0	110.3	113.0	100.0
1974	103.1	111.4	121.5	117.8	109.1	113.4	92.4
1975	104.0	104.2	122.5	117.8	117.6	116.9	113.0
1976	105.8	110.1	132.5	125.2	120.3	120.7	118.4
1977	110.6	113.2	128.4	116.1	113.4	113.0	114.7
1978	108.7	108.7	117.7	108.3	108.3	108.1	109.3
1979	114.0	115.2	116.5	102.2	101.1	100.9	101.8
1980	110.7	111.3	113.4	102.4	101.9	102.8	98.1
1981	109.2	110.1	115.9	106.1	105.3	106.7	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	107.5	108.9	95.9	89.2	88.1	89.4	83.3
1984	107.8	109.5	96.5	89.5	88.1	88.9	85.2
1985	112.2	116.9	91.8	81.8	78.5	78.7	77.8
1986	115.7	123.1	93.4	80.7	75.9	75.4	77.8
1987	130.7	136.8	102.7	78.6	75.1	75.4	74.1
1988	127.2	133.1	99.0	77.8	74.4	75.9	69.6
1989	121.0	131.1	99.8	82.5	76.1	77.2	72.6
1990	122.6	130.7	96.7	78.9	74.0	75.0	71.0
1991 ¹	127.7	139.5	104.2	81.6	74.7	76.3	69.6
Average annual percent change:							
1947-91	2.8	2.9	1.0	-1.7	-1.8	-1.9	-.9
1979-90	.7	1.2	-1.7	-2.3	-2.8	-2.7	-3.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 30. Raw and refined cane sugar (SIC 2061, 2062): indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	92.7	93.9	116.0	125.1	123.5	126.2	115.4
1968	94.2	95.7	114.4	121.5	119.6	122.8	110.4
1969	90.9	89.2	105.6	116.2	118.4	118.7	118.0
1970	96.4	97.7	111.3	113.1	113.9	113.5	115.4
1971	94.6	97.7	112.5	118.9	115.2	115.3	115.4
1972	99.6	103.6	118.7	119.2	114.6	113.5	118.0
1973	106.7	110.6	124.5	116.7	112.6	113.5	110.4
1974	104.0	108.7	123.8	113.0	113.9	111.9	120.5
1975	103.7	103.4	120.4	116.1	116.4	114.4	123.1
1976	105.7	108.0	125.7	118.9	116.4	115.3	120.5
1977	114.1	112.8	130.0	113.9	115.2	113.5	120.5
1978	112.1	111.1	123.0	109.7	110.7	109.3	115.3
1979	116.0	115.7	123.0	106.0	106.3	107.6	102.5
1980	113.5	114.0	120.6	106.3	105.8	107.6	100.0
1981	112.8	113.6	123.7	109.7	108.9	111.8	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	112.3	109.1	104.8	93.3	96.1	100.0	84.6
1984	104.7	103.7	97.2	92.8	93.7	95.8	87.2
1985	118.1	117.8	93.9	79.5	79.7	81.5	74.4
1986	117.2	120.5	90.7	77.4	75.3	76.5	71.8
1987	123.0	125.5	93.0	75.6	74.1	75.6	69.2
1988	121.4	128.4	91.4	75.3	71.2	73.9	63.3
1989	117.9	129.8	95.4	80.9	73.5	76.4	65.3
1990	118.0	127.2	90.6	76.8	71.2	73.9	63.3
1991 ¹	123.2	136.7	97.3	79.0	71.2	74.8	61.3
Average annual percent change:							
1958-91	2.2	2.6	.4	-1.8	-2.1	-2.0	-2.3
1979-90	.2	.9	-2.7	-2.9	-3.6	-3.4	-4.3

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Agricultural Marketing Service and Statistical

Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census.
Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 31. Beet sugar (SIC 2063): indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	82.7	84.1	93.8	113.4	111.6	114.7	93.4
1968	89.8	92.9	108.1	120.4	116.4	120.6	93.4
1969	89.2	92.3	116.4	130.5	126.1	133.0	86.7
1970	98.0	99.7	124.8	127.3	125.2	131.8	86.7
1971	102.1	111.7	123.5	121.0	110.6	117.1	73.5
1972	111.2	115.3	128.7	115.7	111.6	118.2	73.5
1973	105.4	113.7	122.5	116.2	107.7	113.7	73.5
1974	99.3	103.8	117.8	118.6	113.5	119.4	80.1
1975	103.5	105.7	127.3	123.0	120.4	125.1	93.4
1976	107.2	116.3	146.6	136.8	126.1	129.6	106.8
1977	105.5	114.4	126.5	119.9	110.6	112.5	100.0
1978	103.8	105.0	110.0	106.0	104.8	106.8	93.3
1979	110.3	113.7	107.0	97.0	94.1	92.0	106.8
1980	107.6	107.3	103.0	95.7	96.0	96.6	93.3
1981	104.0	104.0	104.0	100.0	100.0	100.0	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.0	107.4	81.3	82.1	75.7	75.0	80.1
1984	113.3	119.7	95.3	84.1	79.6	79.5	80.1
1985	104.1	115.5	88.6	85.1	76.7	75.0	86.7
1986	114.7	128.0	98.2	85.6	76.7	73.9	93.3
1987	141.9	154.6	118.6	83.6	76.7	75.0	86.7
1988	135.2	139.8	110.9	82.0	79.3	78.0	86.7
1989	124.6	132.1	105.8	84.9	80.1	78.0	92.9
1990	129.2	135.5	106.2	82.2	78.4	76.0	92.9
1991 ¹	133.8	143.3	114.8	85.8	80.1	78.0	92.9
Average annual percent change:							
1958-91	2.3	2.0	1.4	-.9	-.7	-.8	.2
1979-90	1.4	1.6	-.1	-1.5	-1.6	-1.7	-1.3

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 32. Malt beverages (SIC 2082): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	38.7	38.1	52.7	136.2	138.3	135.5	144.1
1968	42.0	40.9	55.6	132.5	136.1	134.5	139.8
1969	44.9	43.8	58.2	129.6	132.8	130.7	137.6
1970	46.3	45.9	60.9	131.6	132.8	128.7	142.0
1971	48.4	47.8	63.1	130.3	132.0	126.0	145.6
1972	53.9	54.4	65.0	120.5	119.5	114.4	130.2
1973	60.2	61.0	69.5	115.5	114.0	114.4	112.6
1974	62.4	63.8	74.1	118.8	116.2	117.2	114.0
1975	70.4	70.6	77.1	109.5	109.2	111.1	105.2
1976	78.0	80.0	79.2	101.6	99.0	99.6	97.9
1977	81.6	82.1	83.7	102.6	102.0	105.4	94.9
1978	82.5	84.0	88.8	107.6	105.7	108.7	99.3
1979	89.6	90.2	91.8	102.4	101.8	106.1	92.7
1980	94.8	96.3	96.4	101.7	100.1	103.4	93.4
1981	96.6	97.1	98.3	101.8	101.2	102.1	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.5	107.8	101.7	93.7	94.3	96.6	89.7
1984	115.3	112.9	101.5	88.0	89.9	93.0	83.8
1985	110.4	110.1	102.9	93.2	93.5	91.6	97.8
1986	130.7	135.2	106.5	81.5	78.8	84.1	67.6
1987	143.8	145.2	106.7	74.2	73.5	76.6	66.9
1988	143.2	144.7	108.4	75.7	74.9	75.7	71.7
1989	142.8	146.0	106.7	74.7	73.1	73.6	70.4
1990	153.0	156.2	110.9	72.5	71.0	70.4	70.0
1991 ¹	152.1	154.3	110.0	72.3	71.3	70.4	70.8
Average annual percent change							
1947-91	5.2	5.0	2.6	-2.4	-2.2	-2.3	-2.0
1979-90	5.0	5.1	1.7	-3.1	-3.2	-3.7	-2.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 33. Bottled and canned soft drinks (SIC 2086): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	58.4	56.8	54.5	93.4	96.0	113.3	87.6
1968	63.1	60.9	58.6	92.9	96.3	113.8	87.9
1969	61.2	59.3	58.4	95.5	98.5	114.7	90.7
1970	61.4	60.1	58.8	95.8	97.9	112.9	90.7
1971	64.7	64.1	61.9	95.6	96.6	111.4	89.4
1972	66.1	66.3	63.2	95.6	95.3	108.8	88.7
1973	69.3	69.6	67.1	96.8	96.4	109.5	90.2
1974	71.6	71.6	68.2	95.3	95.2	109.3	88.5
1975	78.5	78.3	72.1	91.9	92.1	104.6	86.0
1976	83.4	83.4	80.4	96.4	96.4	108.2	90.7
1977	87.7	87.6	86.9	99.1	99.2	110.4	93.8
1978	90.4	90.7	92.7	102.5	102.2	112.2	97.3
1979	90.6	90.8	95.0	104.8	104.6	111.8	101.0
1980	93.7	94.0	97.4	104.0	103.6	107.3	101.6
1981	97.0	97.1	98.6	101.7	101.5	102.8	100.9
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.6	106.6	103.6	97.2	97.2	96.3	97.7
1984	114.7	114.9	109.8	95.7	95.6	95.4	95.7
1985	119.7	120.3	114.0	95.2	94.8	94.6	94.9
1986	128.6	129.1	120.2	93.5	93.1	92.4	93.4
1987	140.5	141.8	125.9	89.6	88.8	89.4	88.6
1988	154.2	155.1	131.5	85.3	84.8	86.6	83.9
1989	167.5	169.1	134.3	80.2	79.4	80.3	78.9
1990	177.8	180.4	137.8	77.5	76.4	76.9	76.2
1991 ¹	186.8	189.6	140.1	75.0	73.9	76.2	72.7
Average annual percent change							
1958-91	4.0	4.1	4.1	0	0	-5	3
1979-90	6.3	6.4	3.4	-2.7	-2.8	-3.3	-2.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Sales Survey and Statistical Profile of the Soft

Drink Industry, National Soft Drink Association; the Annual Report of the Beverage Marketing Corporation; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 34. Prepared fresh or frozen fish and seafoods (SIC 2092): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	101.8	102.9	68.5	67.3	66.6	67.1	63.9
1973	93.5	94.5	65.8	70.4	69.6	68.6	76.0
1974	102.7	102.7	67.7	65.9	65.9	64.3	76.0
1975	103.0	103.1	66.0	64.1	64.0	63.7	66.0
1976	97.5	100.0	66.1	67.8	66.1	65.5	70.0
1977	108.9	107.3	98.1	90.1	91.4	91.1	94.0
1978	113.6	112.3	106.2	93.5	94.6	95.1	91.9
1979	96.3	98.4	94.7	98.3	96.2	95.7	100.0
1980	109.4	108.2	102.7	93.9	94.9	94.5	98.0
1981	104.8	105.8	103.6	98.9	97.9	98.2	96.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	90.0	91.8	83.9	93.2	91.4	90.8	96.0
1984	89.7	90.2	82.0	91.4	90.9	88.6	105.9
1985	88.1	90.3	86.6	98.3	95.9	94.2	108.0
1986	91.4	93.1	90.9	99.4	97.6	94.2	119.9
1987	96.4	102.7	104.5	106.2	101.8	100.3	112.0
1988	98.6	102.0	107.1	108.6	105.0	101.2	130.0
1989	89.8	96.1	96.3	107.2	100.2	96.9	121.9
1990	86.2	95.4	102.9	119.4	107.9	105.2	126.0
Average annual percent change:							
1972-90	-9	-4	2.3	3.2	2.7	2.5	3.8
1979-90	-1.0	-3	.8	1.8	1.0	.9	2.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 35. Tobacco products (SIC 2111, 2121, 2131): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	82.7	86.9	103.5	125.2	119.1	134.9	61.3
1968	85.6	87.4	105.6	123.3	120.8	136.8	61.3
1969	84.2	86.8	102.3	121.5	117.9	132.4	64.2
1970	86.3	90.9	106.3	123.2	116.9	131.7	62.3
1971	90.6	94.5	103.8	114.6	109.8	123.2	60.5
1972	90.9	93.9	103.7	114.1	110.4	123.1	64.2
1973	88.9	92.5	106.9	120.2	115.6	128.0	69.8
1974	91.5	92.8	103.7	113.3	111.8	123.3	69.8
1975	93.3	94.9	101.5	108.8	107.0	115.9	74.5
1976	97.1	99.5	104.6	107.7	105.1	113.7	73.6
1977	99.2	99.0	99.4	100.2	100.4	107.5	74.5
1978	101.9	104.6	102.1	100.2	97.6	104.1	73.5
1979	101.4	104.1	102.4	101.0	98.4	103.1	81.1
1980	101.4	104.7	103.2	101.8	98.6	101.6	87.7
1981	99.8	101.9	105.8	106.0	103.8	106.8	93.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.3	102.2	95.9	92.8	93.8	91.8	100.9
1984	107.0	107.9	94.6	88.4	87.7	83.1	104.7
1985	108.9	107.6	92.0	84.5	85.5	82.1	98.1
1986	111.9	112.1	89.6	80.1	79.9	74.8	99.2
1987	117.2	117.3	89.3	76.2	76.1	71.1	94.3
1988	124.8	118.2	89.7	71.9	75.9	72.1	89.6
1989	125.9	123.6	87.6	69.6	70.9	67.0	84.9
1990	131.4	136.3	91.3	69.5	67.0	61.7	86.8
1991 ¹	131.4	134.9	89.2	67.9	66.1	60.9	84.9
Average annual percent change:							
1947-91	2.7	2.6	.3	-2.2	-2.2	-2.7	.9
1979-90	2.4	2.5	-1.0	-3.3	-3.4	-4.6	.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms.

U.S. Department of the Treasury, the Bureau of the Census, and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 36. Cigarettes, chewing and smoking tobacco (SIC 2111, 2131): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.1	90.6	81.6	95.9	90.1	102.5	47.0
1968	88.0	89.8	82.5	93.8	91.9	105.1	47.0
1969	84.3	87.0	80.3	95.3	92.3	104.3	51.0
1970	85.7	91.2	84.2	98.3	92.3	104.6	50.0
1971	89.8	94.1	83.5	93.0	88.7	99.7	51.0
1972	90.2	93.8	87.0	96.4	92.8	104.0	53.9
1973	89.2	93.6	93.0	104.3	99.4	110.4	62.0
1974	90.3	92.8	91.3	101.1	98.4	108.1	65.0
1975	93.7	95.8	93.3	99.6	97.4	105.5	68.9
1976	97.2	100.4	98.8	101.6	98.4	106.6	70.0
1977	100.5	100.5	95.1	94.6	94.6	101.1	72.0
1978	104.4	108.1	99.1	94.9	91.7	97.5	72.0
1979	103.0	106.5	100.5	97.6	94.4	98.5	80.0
1980	102.3	106.3	102.3	100.0	96.2	98.8	87.0
1981	100.0	102.2	105.2	105.2	102.9	105.8	93.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.4	102.1	95.4	92.3	93.4	91.3	100.0
1984	104.8	106.5	94.0	89.7	88.3	83.5	104.9
1985	107.8	106.7	92.1	85.4	86.3	82.9	98.0
1986	110.5	110.9	89.5	81.0	80.7	75.7	98.0
1987	116.1	116.4	92.1	79.3	79.1	74.6	95.0
1988	123.9	117.2	92.7	74.8	79.1	75.8	91.0
1989	124.7	122.8	90.5	72.6	73.7	70.6	85.0
1990	131.0	136.1	94.6	72.2	69.5	64.5	87.0
1991 ¹	131.5	135.1	92.7	70.5	68.6	64.0	85.0
Average annual percent change:							
1947-91	1.8	1.7	1.1	-7	-5	-1.1	2.0
1979-90	2.2	2.3	-5	-2.7	-2.7	-3.8	8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms.

U.S. Department of the Treasury; the Bureau of the Census, and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 37. Cigars (SIC 2121): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	70.1	69.6	259.7	370.7	373.0	382.1	300.0
1968	72.6	72.5	270.3	372.5	373.0	382.1	300.0
1969	75.7	75.8	259.1	342.2	341.7	348.8	283.2
1970	79.4	79.6	264.1	332.8	331.6	340.1	266.6
1971	84.1	84.4	248.5	295.5	294.3	304.5	216.6
1972	84.2	83.5	221.6	263.1	265.3	268.6	233.4
1973	80.3	80.1	204.3	254.3	255.1	262.2	200.1
1974	87.0	81.5	187.3	215.4	229.8	240.0	149.9
1975	84.1	81.8	157.4	187.1	192.4	195.6	166.7
1976	89.7	86.5	142.6	159.0	164.8	168.9	133.1
1977	89.8	87.0	131.4	148.4	151.1	155.5	116.7
1978	87.0	84.2	125.6	144.4	149.1	155.5	100.0
1979	91.0	88.4	117.9	129.6	133.4	137.8	100.0
1980	95.5	93.4	111.7	117.0	119.6	122.2	100.0
1981	96.3	98.0	109.6	113.8	111.8	113.4	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.7	101.6	99.6	97.9	98.0	95.6	116.7
1984	129.0	122.0	100.5	77.9	82.4	80.0	100.0
1985	119.3	116.8	91.6	76.8	78.4	75.6	100.0
1986	123.8	124.0	89.9	72.6	72.5	66.7	116.7
1987	130.5	134.5	65.9	50.5	49.0	44.4	83.3
1988	136.5	137.4	64.7	47.4	47.1	44.4	66.7
1989	141.6	138.8	62.6	44.2	45.1	40.0	83.3
1990	138.7	142.4	64.2	46.3	45.1	40.0	83.3
1991 ¹	130.0	136.7	58.9	45.3	43.1	37.8	83.3
Average annual percent change:							
1947-91	4.0	4.1	-2.9	-6.7	-6.7	-7.2	-3.6
1979-90	3.9	4.4	-5.4	-8.9	-9.4	-10.6	-1.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 38. Cotton and synthetic broadwoven fabrics (SIC 2211, 2221): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	76.3	86.0	110.2	144.4	128.1	130.6	109.5
1973	68.1	76.1	99.3	145.8	130.5	132.7	113.7
1974	70.4	75.9	98.2	139.4	129.3	131.3	113.7
1975	77.1	81.3	97.9	127.0	120.4	122.3	106.5
1976	77.3	84.2	109.9	142.2	130.6	133.1	111.5
1977	88.8	96.4	123.2	138.7	127.8	130.1	110.7
1978	83.1	91.2	111.3	134.0	122.0	123.9	108.0
1979	89.6	98.8	120.1	134.1	121.5	123.8	105.0
1980	93.4	101.9	120.8	129.4	118.5	120.5	104.3
1981	95.3	103.2	116.6	122.3	113.0	114.3	103.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	108.6	117.9	114.0	105.0	96.7	97.5	90.8
1984	107.1	115.0	111.8	104.4	97.2	98.3	88.9
1985	111.1	117.4	102.5	92.3	87.3	88.2	80.2
1986	119.5	131.5	107.2	89.7	81.5	82.7	72.9
1987	118.2	133.8	111.7	94.5	83.5	84.9	73.3
1988	115.9	127.9	106.9	92.2	83.6	84.8	74.5
1989	120.5	132.6	105.7	87.7	79.7	80.7	72.9
1990	125.5	134.8	101.0	80.5	74.9	75.2	72.6
1991 ¹	129.6	139.7	100.2	77.3	71.7	71.9	70.7
Average annual percent change							
1972-91	2.8	2.6	-5	-3.2	-3.0	-3.1	-2.3
1979-90	3.1	2.9	-1.6	-4.5	-4.3	-4.4	-3.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 39. Hosiery (SIC 2251, 2252): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	44.8	46.0	70.9	158.3	154.2	158.8	119.2
1968	41.9	43.2	69.9	166.8	161.8	166.0	127.3
1969	48.2	49.8	84.7	175.7	170.1	174.3	138.3
1970	57.4	56.0	91.6	159.7	163.5	166.9	136.8
1971	54.0	53.1	76.1	140.8	143.2	144.0	136.8
1972	62.3	63.4	82.8	132.9	130.6	130.5	127.3
1973	65.2	63.5	80.2	123.0	126.3	126.6	123.2
1974	73.4	70.9	73.0	99.4	103.0	102.9	102.6
1975	82.5	78.6	74.9	90.8	95.3	95.6	93.1
1976	93.2	92.7	83.5	89.6	90.1	90.6	84.9
1977	87.6	86.2	82.6	94.3	93.6	95.1	82.3
1978	89.4	90.7	88.1	98.6	97.1	98.0	89.0
1979	94.3	98.8	98.3	104.2	99.5	98.9	104.2
1980	93.9	98.0	97.4	103.7	99.4	98.0	109.5
1981	106.7	112.6	108.4	101.6	98.3	94.3	111.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.0	106.5	109.2	106.0	102.5	104.2	90.0
1984	103.9	107.9	110.8	106.6	102.7	101.1	115.1
1985	102.4	107.8	107.3	104.8	99.5	99.6	98.6
1986	103.9	110.4	111.9	107.7	101.4	101.3	101.4
1987	101.2	107.3	112.4	111.1	104.8	105.2	101.4
1988	108.6	114.4	118.4	108.0	103.5	104.8	92.0
1989	109.5	115.3	122.7	112.1	106.4	107.8	94.6
1990	106.8	109.6	114.2	106.9	104.2	104.3	102.7
1991 ¹	113.1	119.3	120.3	106.4	100.8	100.5	102.7
Average annual percent change							
1967-91	4.5	4.5	2.7	-1.7	-1.7	-1.8	-2
1979-90	1.1	.9	1.4	2	4	5	-1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Association of Hosiery Manufacturers, Inc., and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 40. Yarn spinning mills (SIC 2281): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	65.6	70.7	72.5	110.5	102.6	105.7	69.3
1968	67.8	75.0	80.1	118.1	106.8	109.7	72.7
1969	71.6	76.4	87.4	122.1	114.4	117.6	79.0
1970	71.5	75.4	83.4	116.7	110.6	112.9	83.8
1971	76.5	84.5	96.5	126.1	114.2	116.1	91.9
1972	77.1	87.0	107.3	139.1	123.4	125.6	98.4
1973	72.0	79.4	104.5	145.2	131.6	134.0	104.9
1974	75.5	77.8	100.9	133.6	129.7	130.7	117.9
1975	85.7	86.1	96.7	112.8	112.3	112.8	106.4
1976	79.2	84.3	105.5	133.2	125.1	126.7	106.4
1977	84.7	91.9	117.6	138.9	128.0	128.9	119.3
1978	86.4	95.0	122.1	138.2	129.5	129.5	117.7
1979	87.8	94.7	116.3	132.4	127.8	123.7	111.2
1980	84.4	89.0	109.0	129.1	122.5	122.6	121.0
1981	87.3	90.7	106.9	122.4	117.8	117.9	117.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	108.8	117.2	117.8	108.3	100.5	100.7	98.5
1984	110.3	115.6	120.2	109.0	104.0	103.9	104.6
1985	114.8	119.1	114.7	99.9	96.3	96.1	97.0
1986	120.6	134.7	131.5	109.0	97.6	97.8	95.4
1987	131.3	145.9	173.0	131.8	118.6	118.3	121.5
1988	129.3	136.5	161.9	125.2	118.6	118.7	118.8
1989	135.8	142.2	165.1	121.6	116.1	115.6	121.5
1990	140.5	144.5	161.4	114.9	111.7	110.5	123.0
1991 ¹	148.8	154.7	169.2	113.7	109.4	107.9	123.0
Average annual percent change:							
1958-91	3.3	3.5	4.0	.7	5	3	2.1
1979-90	4.4	3.9	3.0	-1.3	-9	-1.0	9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 41. Men's and boys' suits and coats (SIC 2311): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	78.0	83.0	140.8	180.5	169.6	172.2	153.1
1968	78.7	84.5	146.6	186.2	173.5	175.5	161.4
1969	76.5	81.7	143.3	187.3	175.3	176.2	169.5
1970	78.9	79.2	125.0	158.5	157.9	157.7	159.2
1971	80.9	81.3	117.0	144.6	144.0	144.6	140.6
1972	94.7	98.1	146.9	155.1	149.7	150.8	143.5
1973	88.4	90.9	138.5	156.6	152.4	153.0	158.8
1974	93.1	91.3	128.8	138.3	141.1	140.7	144.6
1975	100.0	96.5	112.5	112.5	116.6	115.9	121.8
1976	95.4	97.8	116.7	122.3	119.3	120.3	113.5
1977	105.0	107.6	130.1	123.9	120.9	121.5	117.6
1978	97.2	99.7	118.2	121.6	118.6	119.7	112.5
1979	101.7	102.7	110.6	108.7	107.7	106.7	115.4
1980	102.2	105.1	107.6	105.3	102.4	102.7	102.0
1981	103.9	107.5	109.4	105.3	101.8	102.2	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	94.8	96.6	90.3	95.3	93.5	93.6	92.7
1984	101.7	105.8	99.0	97.3	93.6	93.9	91.6
1985	111.6	111.9	94.1	84.3	84.1	84.0	84.4
1986	112.8	114.1	90.1	79.0	79.0	77.9	86.5
1987	112.5	115.1	87.9	78.1	76.4	75.2	84.4
1988	115.8	121.5	93.1	80.4	78.6	75.9	81.3
1989	117.9	121.4	88.4	75.0	72.8	71.2	83.4
1990	115.4	117.8	78.9	68.4	67.0	64.5	83.4
Average annual percent change:							
1967-90	1.7	1.5	-2.5	-4.1	-4.0	-4.2	-2.6
1979-90	1.2	1.3	-3.0	-4.1	-4.2	-4.5	-2.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 42. Sawmills and planing mills, general (SIC 2421): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	76.2	78.5	107.3	140.8	136.7	144.5	87.7
1968	78.1	81.7	108.7	139.1	133.1	139.9	91.1
1969	77.5	80.4	108.2	139.6	134.5	141.1	94.5
1970	77.0	80.0	105.3	136.8	131.7	136.2	103.9
1971	83.9	87.4	112.3	133.9	128.5	134.1	93.9
1972	91.9	97.5	123.1	133.9	126.3	131.3	94.9
1973	85.7	90.9	119.6	139.6	131.6	136.7	100.0
1974	81.5	84.6	111.2	136.4	131.5	135.0	109.0
1975	84.5	87.8	106.2	125.7	121.0	124.8	96.7
1976	88.2	92.7	118.8	134.7	128.2	132.3	102.3
1977	85.5	90.8	120.5	141.0	132.7	136.7	107.8
1978	87.5	91.4	119.9	137.0	131.2	134.5	110.7
1979	90.8	94.0	125.9	138.6	134.0	137.3	113.4
1980	89.0	91.8	121.9	137.0	132.8	133.2	131.1
1981	92.2	94.8	115.7	125.5	122.1	122.5	119.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	107.4	110.5	119.7	111.5	108.3	109.6	98.9
1984	111.1	114.4	123.8	111.4	108.2	110.0	96.7
1985	115.8	121.0	125.0	107.9	103.3	105.2	91.1
1986	128.0	134.4	143.8	112.3	107.0	108.6	96.2
1987	125.4	138.2	155.3	123.8	112.4	113.3	106.7
1988	128.3	140.7	160.1	124.8	113.8	114.3	111.2
1989	125.7	136.9	153.3	122.0	112.0	111.8	114.5
1990	125.7	136.9	150.6	119.8	110.0	109.1	116.8
1991 ¹	128.3	139.5	142.4	111.0	102.1	100.7	113.4
Average annual percent change:							
1958-91	2.6	2.8	1.0	-1.6	-1.8	-1.9	-1.2
1979-90	3.0	3.5	1.6	-1.3	-1.8	-2.1	.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Forest Product Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 43. Millwork (SIC 2431): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	107.6	111.8	99.6	92.6	89.1	92.8	74.6
1968	109.1	112.5	107.9	98.9	95.9	100.7	78.0
1969	111.8	113.2	110.1	98.5	97.3	102.1	79.1
1970	111.4	112.6	105.7	94.9	93.9	97.2	80.4
1971	111.6	113.5	115.3	103.3	101.6	106.5	82.6
1972	124.6	125.9	142.0	114.0	112.8	119.7	87.1
1973	118.9	119.6	143.5	120.7	120.0	126.4	96.4
1974	107.7	107.4	116.0	107.7	108.0	111.9	93.4
1975	116.5	118.1	115.3	99.0	97.6	100.3	87.1
1976	115.4	116.3	126.9	110.0	109.1	114.4	89.1
1977	116.4	117.8	137.2	117.9	116.5	122.7	93.4
1978	105.0	105.9	130.0	123.8	122.8	129.7	97.8
1979	107.2	107.1	129.7	121.0	121.1	126.3	102.2
1980	108.8	108.4	117.9	108.4	108.8	110.9	100.7
1981	112.0	111.2	118.4	105.7	106.5	109.0	97.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.1	105.5	121.7	119.2	115.4	110.8	103.8
1984	103.0	105.3	135.9	132.0	129.1	134.4	111.0
1985	99.6	102.7	139.6	140.2	135.9	140.8	118.1
1986	104.7	108.7	156.9	149.8	144.4	149.8	125.8
1987	112.2	117.0	184.2	164.2	157.5	163.1	137.4
1988	110.6	112.0	181.0	163.7	161.6	165.9	145.7
1989	109.5	110.7	175.5	160.3	158.6	162.2	145.7
1990	110.1	111.1	171.5	155.8	154.3	155.1	151.0
1991 ¹	116.3	118.1	168.9	145.2	143.0	141.9	146.4
Average annual percent change:							
1958-91	.9	.8	2.3	1.4	1.5	1.3	2.0
1979-90	2	3	2.6	2.3	2.2	1.9	3.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 44. Wood kitchen cabinets (SIC 2434): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	85.5	88.9	80.6	94.3	90.7	97.2	67.7
1973	86.7	88.6	88.4	102.0	99.8	106.1	77.4
1974	81.3	82.2	75.4	92.8	91.7	95.5	78.5
1975	89.8	89.2	67.1	74.7	75.2	77.4	66.5
1976	84.1	84.5	74.4	88.5	88.0	94.1	65.6
1977	104.2	104.6	110.3	105.9	105.4	113.4	76.2
1978	101.9	104.9	125.2	122.9	119.3	128.0	87.1
1979	95.8	96.8	124.8	130.3	128.9	139.7	90.3
1980	102.0	101.6	117.2	114.9	115.4	121.8	92.4
1981	98.7	98.8	110.7	112.2	112.0	115.3	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	97.9	102.4	118.8	121.3	118.6	118.6	106.4
1984	97.7	103.9	141.1	144.4	135.8	142.5	111.8
1985	92.3	96.3	138.6	150.2	143.9	151.0	118.2
1986	89.8	94.2	146.7	163.3	155.7	162.0	133.3
1987	108.1	114.7	193.8	179.2	168.9	174.2	149.5
1988	106.3	110.0	190.9	179.6	173.5	177.9	157.0
1989	98.8	102.7	180.2	182.3	175.5	179.8	180.2
1990	102.1	106.0	182.8	179.0	172.5	176.1	159.2
Average annual percent change:							
1972-90	1.0	1.0	4.7	3.6	3.6	3.4	4.9
1979-90	.6	.8	3.5	2.9	2.7	2.1	5.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 45. Veneer and plywood (SIC 2435, 2436): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.2	65.8	86.6	141.5	131.6	136.5	98.6
1968	64.3	70.3	94.2	146.6	134.0	138.9	100.0
1969	64.1	69.1	92.7	144.6	134.2	138.9	102.7
1970	72.7	76.9	95.8	131.7	124.6	126.9	108.6
1971	76.6	82.5	107.7	140.6	130.6	133.1	112.8
1972	78.5	87.0	116.8	148.7	134.2	137.3	112.8
1973	76.5	82.5	114.9	150.1	139.3	141.0	127.2
1974	76.8	80.3	102.2	133.1	127.3	128.1	121.3
1975	85.6	88.5	98.3	114.8	111.1	111.0	112.8
1976	85.6	91.1	112.8	131.8	123.8	125.5	111.4
1977	87.5	93.6	122.0	139.4	130.4	132.6	115.7
1978	89.0	94.7	129.3	145.3	136.5	138.1	125.7
1979	82.8	86.5	118.1	142.7	136.5	136.5	137.2
1980	89.9	91.9	107.3	119.4	116.8	115.9	122.9
1981	93.6	95.3	108.3	115.7	113.7	114.9	105.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.1	111.8	119.1	112.3	106.5	108.1	95.7
1984	105.1	110.6	122.0	116.1	110.3	113.0	91.4
1985	106.2	112.7	118.2	111.3	104.9	108.4	81.4
1986	108.2	116.1	124.2	114.8	107.0	110.4	82.9
1987	124.2	133.6	145.8	117.4	109.1	112.0	88.6
1988	124.7	134.1	145.8	116.9	108.7	110.8	94.3
1989	126.0	136.2	142.1	112.8	104.3	105.3	97.2
1990	127.4	137.1	136.6	107.2	99.6	100.3	94.3
Average annual percent change:							
1968-90	4.0	4.0	3.8	-2	-3	-4	9
1979-90	4.0	4.3	1.3	-2.6	-2.8	-2.8	-3.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 46. Hardwood veneer and plywood (SIC 2435): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	83.7	92.1	130.0	155.3	141.1	145.9	110.3
1973	79.2	85.9	123.5	156.0	143.8	149.6	106.6
1974	82.2	86.9	111.9	136.2	126.7	134.2	93.1
1975	91.2	94.2	97.6	107.0	103.6	106.4	96.1
1976	88.0	93.8	105.7	120.1	112.7	115.8	93.1
1977	96.5	105.1	126.1	128.0	120.0	122.7	103.4
1978	99.2	104.6	131.3	132.4	125.5	129.6	100.0
1979	96.3	101.2	126.9	133.8	127.4	130.6	106.6
1980	102.7	105.7	119.6	116.5	113.2	115.3	100.0
1981	98.8	104.4	118.7	120.1	113.7	114.9	106.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.5	114.1	119.3	110.0	104.6	105.3	100.0
1984	102.5	107.7	119.6	116.7	111.0	112.7	100.0
1985	106.7	112.2	114.8	107.6	102.3	103.7	93.1
1986	106.6	113.4	119.1	111.7	105.0	106.6	93.1
1987	130.6	140.7	152.9	117.1	108.7	110.0	100.0
1988	132.7	142.1	157.0	118.3	110.5	111.6	103.4
1989	132.4	141.5	157.6	119.0	111.4	111.1	113.8
1990	124.3	132.5	144.6	116.3	109.1	108.5	113.8
Average annual percent change:							
1972-90	2.2	2.0	.6	-1.6	-1.1	-1.6	.2
1979-90	2.3	2.5	1.1	-1.3	-1.4	-1.7	.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 47. Softwood veneer and plywood (SIC 2436): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	76.5	85.1	110.5	144.4	129.9	131.8	114.7
1973	75.7	81.2	103.7	146.2	136.4	135.6	141.5
1974	74.5	77.4	97.7	131.1	126.3	124.2	141.5
1975	82.3	85.0	98.6	119.8	116.0	113.9	131.7
1976	83.5	88.9	116.2	139.1	130.7	131.5	124.4
1977	81.8	87.4	119.9	146.6	137.2	138.8	124.4
1978	83.6	89.2	126.2	153.3	143.7	143.5	144.0
1979	76.4	79.4	113.2	148.1	142.5	140.2	158.6
1980	83.9	85.5	101.8	121.3	119.1	116.2	139.1
1981	91.5	91.1	103.6	113.2	113.7	114.9	104.9
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.2	109.9	118.6	113.8	107.9	110.0	92.8
1984	106.3	111.7	122.9	115.6	110.0	113.3	85.4
1985	105.6	112.1	119.6	113.3	106.7	111.7	73.2
1986	108.2	116.9	126.5	116.9	106.2	111	75.6
1987	120.9	130.0	142.2	117.6	109.4	113	90.5
1988	121.0	130.4	140.4	116.0	107.7	110.3	97.8
1989	123.8	135.0	134.7	108.8	99.8	101.6	95.4
1990	131.0	141.6	132.7	101.3	93.7	95.4	90.5
1991 ¹	136.1	145.9	118.3	86.9	81.1	82.3	70.8
Average annual percent change:							
1972-91	3.1	2.9	.4	-2.6	-2.4	2.4	-2.5
1979-90	5.0	5.4	1.5	-2.4	-2.7	3.4	-6.0

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Plywood Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 48. Wood containers (SIC 244): Indexes of output per hour and related measures, 1977-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1977	83.1	84.1	93.9	113.0	111.7	117.4	81.7
1978	83.1	83.6	98.6	118.9	118.2	123.7	86.3
1979	74.2	74.9	93.4	125.9	124.7	130.7	93.3
1980	87.4	86.6	97.9	112.0	113.0	116.5	95.0
1981	85.0	86.2	94.3	111.2	109.6	111.5	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.9	102.0	102.6	102.7	100.6	100.7	100.0
1984	102.5	104.2	113.7	110.9	109.1	110.1	103.3
1985	99.2	100.5	109.3	110.2	108.8	109.8	103.3
1986	98.0	99.4	107.9	110.1	108.6	109.6	103.3
1987	98.2	100.0	111.5	113.6	111.5	112.4	106.6
1988	101.7	104.1	121.3	119.3	116.5	118.1	108.3
1989	107.4	109.9	131.0	122.0	119.2	120.0	114.9
1990	110.9	115.2	138.6	125.0	120.3	120.8	118.2
Average annual percent change:							
1977-90	2.2	2.5	3.0	.8	.6	.2	2.9
1979-90	3.7	4.0	3.7	-1	-3	-7	2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 49. Household furniture (SIC 251): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	75.4	81.8	86.5	114.7	105.8	109.3	87.3
1968	77.1	84.8	92.3	119.7	108.6	112.5	89.6
1969	77.9	85.2	95.2	122.2	111.8	115.3	93.1
1970	78.4	84.9	91.0	116.0	107.2	109.5	95.2
1971	82.6	89.2	97.9	118.5	109.7	111.6	98.4
1972	90.1	96.3	116.1	128.8	120.6	123.0	106.2
1973	93.1	98.6	122.6	131.7	124.3	129.6	95.9
1974	91.5	94.9	112.6	123.1	118.6	120.1	110.6
1975	93.2	94.2	95.3	102.3	101.2	102.2	95.5
1976	95.3	98.4	108.3	113.7	110.1	111.6	101.9
1977	95.6	99.3	117.0	122.4	117.8	119.8	106.7
1978	100.2	105.4	126.6	126.5	120.3	122.1	110.8
1979	97.0	101.5	121.8	125.6	120.0	121.0	114.4
1980	95.5	98.6	113.6	118.9	115.2	115.4	114.2
1981	98.4	101.8	113.1	114.9	111.1	111.3	110.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	105.0	108.4	109.6	104.4	101.1	102.3	95.2
1984	104.9	109.0	116.2	110.8	106.6	107.8	100.2
1985	107.0	110.5	116.2	108.6	105.2	105.9	101.7
1986	112.4	118.7	122.9	109.3	103.5	104.8	96.2
1987	113.2	120.2	129.9	114.8	108.1	108.7	104.6
1988	114.2	120.2	129.6	113.5	107.8	108.9	101.3
1989	114.7	121.1	128.7	112.2	106.3	106.6	104.1
1990	114.1	120.4	125.8	110.3	104.5	104.5	104.6
1991 ¹	117.7	123.4	120.4	102.3	97.6	97.0	101.0
Average annual percent change:							
1968-91	1.9	1.8	2.1	.2	.3	.2	.6
1979-90	1.5	1.6	.3	-1.2	-1.2	-1.3	-.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the International Sleep Products Association, the Bureau of the Census, the International Trade Administration, U. S. Department of Commerce, and the Bureau of Labor Statistics.

Table 50. Wood household furniture (SIC 2511, 2517): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	82.7	92.2	96.3	116.4	104.4	108.7	77.2
1968	85.0	96.9	101.5	119.4	104.8	108.3	78.5
1969	87.5	98.7	106.1	121.2	107.5	111.3	82.8
1970	85.2	94.6	94.8	111.3	100.2	102.8	83.7
1971	91.1	100.4	105.0	115.3	104.6	106.9	88.9
1972	100.8	110.7	127.5	126.5	115.2	117.7	98.6
1973	105.9	115.5	133.9	126.4	115.9	124.2	96.6
1974	101.8	108.2	125.1	122.9	115.6	116.9	108.0
1975	99.9	101.6	101.6	101.7	100.0	100.8	95.5
1976	103.2	108.0	120.8	117.1	111.9	113.1	103.5
1977	101.9	109.1	124.8	122.5	114.4	116.6	100.6
1978	106.9	115.6	137.1	128.2	118.6	119.6	112.6
1979	103.6	111.2	124.6	120.3	112.1	112.4	110.4
1980	99.1	103.0	113.1	114.1	109.8	109.6	112.0
1981	99.4	104.7	112.0	112.7	107.0	106.9	107.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	105.8	110.0	109.6	103.6	99.6	100.0	96.0
1984	107.7	113.3	121.9	113.2	107.6	108.4	101.7
1985	106.9	111.5	118.2	110.6	106.0	106.1	104.7
1986	114.6	122.6	124.7	108.8	101.7	103.9	87.4
1987	114.8	124.1	132.8	115.7	107.0	107.6	101.7
1988	116.0	123.3	132.4	114.1	107.4	108.1	101.7
1989	114.2	121.3	127.1	111.3	104.8	104.2	108.0
1990	112.7	119.9	121.5	107.8	101.3	100.2	106.0
1991 ¹	116.8	123.1	116.7	99.9	94.8	93.2	104.6
Average annual percent change:							
1968-91	1.7	1.5	1.9	.3	.4	.3	1.2
1979-90	.8	.7	-.2	-1.0	-.9	-1.0	-.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the International Trade Administration, U. S. Department of Commerce, and the Bureau of Labor Statistics.

Table 51. Upholstered household furniture (SIC 2512): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	69.3	75.1	75.1	108.4	100.0	101.2	92.6
1968	70.0	76.3	81.4	116.3	106.7	109.2	92.6
1969	69.3	75.5	83.8	121.0	111.0	112.7	100.6
1970	72.8	79.0	88.0	120.8	111.4	112.7	103.2
1971	73.0	80.4	90.1	123.4	112.1	113.3	105.1
1972	77.5	83.0	108.1	129.5	120.2	121.0	126.4
1973	78.8	83.0	111.6	141.6	134.4	134.7	133.4
1974	79.3	81.9	102.8	129.6	125.5	126.0	122.2
1975	84.1	86.1	90.7	107.9	105.3	106.2	102.0
1976	84.7	87.1	97.7	115.3	112.2	113.0	107.4
1977	86.3	88.4	111.5	129.2	126.2	126.7	124.2
1978	93.9	98.1	124.2	132.2	126.6	127.5	122.2
1979	90.7	94.1	126.5	139.5	134.5	136.1	125.9
1980	88.3	93.5	117.8	133.4	126.0	125.4	129.6
1981	95.4	97.9	115.3	120.8	117.6	117.6	119.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.8	108.3	111.2	106.1	102.7	104.7	91.8
1984	98.9	103.2	111.9	113.2	108.4	108.4	106.3
1985	107.7	111.4	119.9	111.3	107.6	107.6	108.3
1986	109.8	117.2	129.1	117.6	110.2	109.7	113.9
1987	109.1	116.2	135.1	123.8	116.3	116.4	115.7
1988	108.9	114.8	132.8	121.9	115.7	116.8	110.2
1989	110.3	117.7	134.6	122.0	114.4	115.3	110.2
1990	107.6	115.7	137.3	127.6	118.7	119.6	113.9
1991 ¹	112.2	119.6	131.8	117.5	110.2	110.0	111.1
Average annual percent change:							
1968-91	1.8	1.8	2.7	.9	.9	1.0	.8
1979-90	1.6	1.9	.7	-.8	-1.1	-1.2	-.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the International Trade Administration, U. S. Department of Commerce, and the Bureau of Labor Statistics.

Table 52. Metal household furniture (SIC 2514): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	72.9	73.2	84.0	115.3	114.8	120.0	94.6
1968	75.3	76.1	90.3	119.9	118.7	123.2	101.9
1969	75.8	75.1	91.3	120.4	121.5	128.4	94.6
1970	79.6	78.5	94.2	118.3	120.0	124.2	103.7
1971	80.9	80.7	94.2	116.4	116.7	120.0	103.7
1972	87.4	84.9	108.2	123.8	127.4	133.0	105.5
1973	87.7	86.8	118.7	135.4	136.7	142.3	114.7
1974	83.7	80.7	105.8	126.4	131.1	133.9	119.9
1975	87.4	83.5	87.5	100.1	104.8	105.6	101.9
1976	89.6	87.5	98.9	110.3	112.9	115.3	103.7
1977	93.0	90.6	111.4	119.8	123.0	127.3	105.5
1978	90.7	89.3	112.8	124.4	126.3	131.6	105.5
1979	83.8	83.5	106.4	126.9	127.4	130.2	116.4
1980	87.1	84.2	98.4	113.0	116.9	121.9	98.2
1981	91.7	90.5	99.9	108.9	110.4	113.4	98.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.1	102.0	106.9	105.7	104.8	107.0	96.4
1984	112.2	111.3	113.7	101.3	100.2	106.0	87.2
1985	114.7	113.2	114.0	99.4	100.7	104.2	87.2
1986	118.7	120.5	120.0	101.1	99.6	100.9	94.5
1987	115.4	116.3	129.7	112.4	111.5	113.0	105.5
1988	116.0	121.3	131.6	113.4	108.5	109.3	105.5
1989	115.1	118.8	124.1	107.8	104.5	108.4	89.1
1990	119.7	121.2	118.9	99.3	98.1	103.3	78.2
1991 ¹	124.8	125.8	111.8	89.6	88.9	93.0	72.8
Average annual percent change:							
1968-91	2.1	2.1	1.4	-7	-7	-6	-1.1
1979-90	3.3	3.4	1.0	-2.2	-2.3	-2.1	-3.6

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the International Trade Administration, U. S. Department of Commerce, and the Bureau of Labor Statistics.

Table 53. Mattresses and bedsprings (SIC 2515): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	61.4	63.5	78.0	127.0	122.8	126.4	106.3
1968	64.0	68.0	96.0	134.4	128.4	131.6	111.0
1969	62.2	66.1	96.2	138.6	130.4	135.8	114.1
1970	64.9	68.4	94.0	129.5	122.6	126.5	112.5
1971	72.3	75.0	95.6	132.2	127.5	132.1	114.1
1972	80.0	82.3	101.6	127.0	123.5	127.3	112.5
1973	84.7	86.0	113.8	134.4	132.3	138.0	115.7
1974	90.3	90.5	100.4	111.2	111.0	115.3	96.5
1975	92.9	92.8	91.3	98.3	98.4	102.6	96.0
1976	95.0	96.6	98.0	103.2	101.5	104.1	93.7
1977	95.9	97.1	103.1	107.5	106.2	108.4	100.0
1978	97.3	98.0	103.0	105.8	105.1	108.9	93.8
1979	98.4	101.0	114.5	116.4	113.4	114.1	111.0
1980	107.4	108.0	118.0	109.8	109.3	109.4	109.5
1981	109.3	110.6	123.1	112.6	111.3	111.0	112.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.1	103.8	104.6	103.5	100.8	101.0	100.0
1984	99.4	100.9	104.4	105.0	103.5	105.7	97.0
1985	95.9	98.2	101.2	105.5	103.1	104.1	100.0
1986	100.9	103.6	104.4	103.5	100.6	102.5	95.3
1987	112.5	115.5	111.0	98.7	96.1	94.2	101.6
1988	117.5	120.8	114.2	97.2	94.5	96.2	89.1
1989	125.8	130.1	130.6	103.8	100.4	98.9	104.8
1990	129.0	134.3	130.5	101.2	97.2	93.1	109.5
1991 ¹	128.2	134.2	126.3	98.5	94.1	89.9	106.3
Average annual percent change:							
1968-91	3.0	3.0	2.1	-8	-9	-1.1	-1
1979-90	2.5	2.6	1.2	-1.3	-1.4	-1.8	-1

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the International Sleep Products Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 54. Office furniture (SIC 252): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	80.8	84.3	50.4	62.4	59.8	63.8	48.3
1968	79.3	84.9	51.1	64.4	60.2	63.5	50.3
1969	82.1	86.3	58.7	71.5	68.0	70.6	60.4
1970	72.8	77.1	48.7	66.9	63.2	65.2	57.6
1971	78.1	81.5	46.7	59.8	57.3	57.9	55.7
1972	85.6	89.2	59.6	69.6	66.8	69.3	59.7
1973	84.5	87.4	63.1	74.7	72.2	75.4	63.1
1974	77.6	79.1	59.9	77.2	75.7	80.8	60.4
1975	79.7	78.6	49.2	61.7	62.6	64.1	58.3
1976	83.8	83.6	54.7	65.3	65.4	67.5	59.7
1977	93.3	94.2	72.1	77.3	76.5	80.0	66.4
1978	93.2	94.5	77.9	83.6	82.4	86.7	70.4
1979	100.0	102.8	87.3	87.3	84.9	88.9	73.2
1980	104.4	103.2	93.4	89.5	90.5	90.9	90.0
1981	101.4	103.3	94.8	93.5	91.8	92.7	89.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.7	103.7	105.7	101.0	101.9	102.6	100.0
1984	110.1	113.1	125.3	113.8	110.8	111.7	108.7
1985	109.3	111.1	129.1	118.1	116.2	114.7	120.8
1986	110.4	110.9	129.2	117.0	116.5	115.4	120.1
1987	110.9	111.6	153.1	138.1	137.2	137.2	137.6
1988	105.7	106.4	145.8	138.0	137.0	138.6	132.2
1989	107.7	110.8	149.9	139.2	135.3	135.4	135.5
1990	106.0	109.6	139.5	131.6	127.3	126.5	120.1
1991 ¹	110.2	110.3	126.3	114.6	114.5	112.6	120.8
Average annual percent change:							
1968-91	1.9	1.8	5.2	3.2	3.3	3.0	4.4
1979-90	.5	.6	4.4	3.8	3.8	3.3	5.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Business and Institutional Furniture Manufacturers Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 55. Wood office furniture (SIC 2521): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	97.6	103.6	40.3	41.3	38.9	41.6	29.5
1968	97.5	108.4	42.8	43.9	39.5	42.2	29.5
1969	101.8	111.1	50.1	49.2	45.1	47.6	36.4
1970	92.7	96.7	44.2	47.7	45.7	49.4	31.9
1971	90.0	91.3	37.7	41.9	41.3	44.0	31.9
1972	93.5	97.4	53.3	57.0	54.7	57.8	43.2
1973	86.6	89.0	52.5	60.6	59.0	62.6	45.4
1974	91.7	91.8	58.5	63.8	63.7	68.7	45.4
1975	89.4	83.7	46.2	51.7	55.2	58.4	43.2
1976	90.6	88.7	54.0	59.6	60.9	64.6	47.7
1977	111.0	113.9	86.7	78.1	76.1	77.1	72.7
1978	111.4	112.0	93.2	83.7	83.2	82.5	86.2
1979	122.8	126.7	121.1	98.6	95.6	94.0	102.2
1980	121.1	114.6	110.6	91.3	98.5	93.4	109.0
1981	110.2	113.1	103.9	94.3	91.9	89.7	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.1	105.7	104.6	100.5	99.0	100.0	95.5
1984	106.4	109.4	129.1	121.3	118.0	118.1	118.1
1985	106.8	109.8	123.9	116.0	112.8	111.5	118.1
1986	103.6	103.0	121.5	117.3	118.0	119.4	113.5
1987	107.8	110.2	162.6	150.8	147.5	147.1	149.9
1988	102.1	101.8	149.3	146.2	146.6	146.2	140.8
1989	101.5	105.2	155.1	152.8	147.5	146.5	152.2
1990	103.3	106.1	142.4	137.9	134.2	133.2	138.5
Average annual percent change:							
1968-90	1.0	1.0	6.1	5.1	5.1	4.8	6.6
1979-90	-1.6	-1.6	1.5	3.1	3.1	3.2	2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 56. Office furniture, except wood (SIC 2522): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	75.1	77.7	55.6	74.0	71.6	77.3	56.2
1968	73.8	77.8	55.8	75.6	71.7	76.5	59.1
1969	76.0	79.0	63.8	84.0	80.8	84.5	70.5
1970	66.8	70.8	51.8	77.6	73.2	74.8	66.6
1971	74.1	77.9	51.6	69.6	66.2	66.3	65.7
1972	82.8	86.3	63.6	76.8	73.7	76.1	66.8
1973	84.0	86.8	69.2	82.4	79.7	83.2	70.5
1974	72.2	74.3	61.2	84.8	82.4	88.3	66.8
1975	76.2	76.9	51.3	67.3	66.7	67.4	64.8
1976	81.5	82.1	55.8	68.5	68.0	69.3	64.8
1977	85.7	86.0	66.0	77.0	76.7	81.7	63.8
1978	85.5	87.0	71.4	83.5	82.1	89.1	63.8
1979	89.7	92.3	72.8	81.2	78.9	85.7	60.9
1980	97.5	98.9	86.4	88.6	87.4	89.4	82.0
1981	97.8	98.9	91.0	93.0	92.0	94.5	84.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.9	102.7	106.2	101.2	103.4	103.9	102.0
1984	112.5	115.3	123.4	109.7	107.0	107.7	104.9
1985	110.6	111.9	132.0	119.3	118.0	115.5	122.0
1986	114.4	115.5	133.6	116.8	115.7	112.7	122.9
1987	112.7	112.4	147.9	131.2	131.6	131.1	132.5
1988	107.9	109.3	144.1	133.6	131.8	132.9	128.6
1989	111.4	114.2	147.0	131.9	128.7	128.4	128.6
1990	107.7	111.7	138.2	128.3	123.7	122.3	126.8
Average annual percent change							
1958-90	2.1	2.2	5.4	3.2	3.1	2.8	4.2
1979-90	1.7	1.7	6.0	4.2	4.2	3.3	6.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 57. Pulp, paper, and paperboard mills (SIC 2611, 2621, 2631): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	60.7	64.6	73.6	121.2	113.9	118.6	98.7
1968	64.5	69.1	79.1	122.6	114.4	119.8	96.9
1969	67.1	71.9	83.3	124.1	115.9	121.4	99.1
1970	69.5	72.6	82.5	118.7	113.7	116.1	99.8
1971	72.7	76.3	83.4	114.7	109.3	112.4	99.4
1972	78.9	83.6	90.0	114.0	107.7	111.0	96.5
1973	82.2	86.7	94.2	114.6	108.6	112.9	95.5
1974	82.2	85.4	93.8	114.1	109.8	113.3	98.3
1975	77.8	78.4	79.6	102.3	101.5	103.1	97.2
1976	85.4	87.5	92.7	108.6	106.0	108.2	98.7
1977	89.8	91.3	97.0	108.0	106.2	108.2	99.8
1978	92.7	94.5	99.3	107.1	105.1	106.2	101.1
1979	94.7	96.4	102.8	108.6	106.6	107.7	103.3
1980	94.4	96.4	102.1	108.1	105.9	106.6	103.8
1981	93.6	94.9	99.3	106.1	104.6	105.5	101.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	107.4	108.8	107.6	100.2	98.9	99.1	98.7
1984	108.7	111.2	111.6	102.7	100.4	100.2	101.1
1985	110.6	111.8	112.1	101.4	100.3	99.4	103.6
1986	120.1	123.5	118.9	99.0	96.3	95.9	98.0
1987	124.0	128.0	123.0	99.2	96.1	95.3	98.9
1988	126.2	130.6	127.2	100.8	97.4	97.3	98.2
1989	127.0	131.5	127.4	100.3	96.9	96.8	97.8
1990	127.9	132.9	130.1	101.7	97.9	96.2	104.2
1991 ¹	128.3	133.3	130.4	101.6	97.8	96.6	102.4
Average annual percent change							
1947-91	3.4	3.3	3.3	-1	1	-2	1.6
1979-90	2.8	3.0	2.2	-6	-8	-1.0	1

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Paper Institute. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 58. Corrugated and solid fiber boxes (SIC 2653): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	58.5	61.8	63.7	108.8	103.0	108.6	88.9
1968	60.6	64.4	68.8	113.5	106.8	113.2	91.1
1969	62.0	65.6	73.5	118.6	112.1	118.0	97.0
1970	65.3	66.4	73.8	113.0	111.1	116.4	98.1
1971	69.4	71.0	77.2	111.2	108.8	113.3	98.1
1972	71.2	74.5	85.2	119.7	114.3	119.9	100.7
1973	77.0	80.2	93.3	121.2	116.3	123.0	99.9
1974	82.3	81.1	88.6	107.7	109.3	113.5	98.9
1975	86.1	85.7	81.2	94.3	94.7	95.4	93.3
1976	90.7	91.4	91.9	101.3	100.6	103.1	94.4
1977	89.4	90.5	97.4	108.9	107.6	109.4	103.3
1978	92.4	93.1	104.5	113.1	112.2	114.9	105.9
1979	95.5	96.5	106.2	111.2	110.0	112.5	104.0
1980	99.2	99.4	102.5	103.3	103.1	103.3	102.6
1981	98.1	99.7	102.8	104.8	103.1	103.6	102.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.9	104.5	107.2	105.2	102.6	102.3	103.7
1984	106.3	109.3	114.5	107.7	104.8	106.2	101.5
1985	109.5	111.4	115.5	105.5	103.7	105.5	99.3
1986	113.0	116.5	122.3	108.2	105.0	106.8	101.1
1987	110.2	115.2	129.0	117.1	112.0	114.5	105.6
1988	109.6	114.7	132.4	121.7	116.3	117.9	113.3
1989	107.6	112.9	136.3	126.7	120.7	121.9	118.5
1990	110.4	115.0	139.0	125.9	120.9	122.0	118.9
1991 ¹	111.0	116.1	139.7	125.9	120.3	121.4	118.1
Average annual percent change:							
1958-91	2.8	2.8	4.3	1.4	1.4	1.3	1.9
1979-90	1.3	1.6	2.5	1.1	.9	.7	1.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Fiber Box Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 59. Folding paperboard boxes (SIC 2657): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	77.7	80.3	91.5	117.7	113.9	115.6	107.8
1968	82.5	85.0	95.4	115.7	112.2	115.2	101.2
1969	80.1	82.0	101.2	126.4	123.4	127.0	111.1
1970	74.2	74.6	83.8	112.9	112.4	114.5	105.6
1971	81.3	81.6	84.5	104.0	103.6	105.0	99.0
1972	88.0	88.6	93.4	106.1	105.4	107.7	96.9
1973	89.0	89.6	93.7	105.3	104.6	107.1	95.7
1974	94.5	94.8	94.5	100.0	99.7	100.9	95.7
1975	94.6	95.5	84.5	89.3	88.5	88.1	90.2
1976	98.7	100.9	94.5	95.7	93.7	94.2	92.4
1977	95.9	95.8	98.9	103.1	103.2	104.7	97.8
1978	100.2	100.4	105.8	105.6	105.4	106.5	101.2
1979	100.2	101.7	105.7	105.5	103.9	105.5	97.8
1980	97.4	97.9	103.0	105.7	105.2	106.2	101.2
1981	100.3	101.8	104.1	103.8	102.3	103.9	96.9
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.3	102.5	100.0	98.7	97.6	97.2	99.1
1984	100.5	103.0	106.5	106.0	103.4	102.8	105.6
1985	98.4	100.1	99.7	101.3	99.6	100.0	98.1
1986	101.3	104.9	106.2	104.8	101.2	101.8	99.1
1987	105.2	109.0	110.3	104.8	101.2	100.5	103.8
1988	105.3	108.9	113.0	107.3	103.8	103.4	104.9
1989	107.0	109.9	111.7	104.4	101.6	100.3	107.1
1990	110.7	113.0	113.0	102.1	100.0	98.6	106.0
1991 ¹	110.0	112.7	110.6	100.5	98.1	97.3	100.6
Average annual percent change:							
1963-91	1.5	1.5	.8	-.7	-.7	-.8	-.2
1979-90	.9	1.0	.6	-.3	-.3	-.6	.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Paperboard Packaging Council, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 60. Paper and plastic bags (SIC 2673, 2674): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	79.3	81.8	75.4	95.1	92.2	93.0	89.3
1968	83.5	88.2	83.2	99.6	94.3	95.1	91.3
1969	81.9	85.3	84.1	102.7	98.6	98.4	100.1
1970	79.5	81.1	85.9	108.0	105.9	108.0	98.1
1971	90.5	92.2	92.3	102.0	100.1	102.0	93.2
1972	93.2	96.0	92.9	99.7	96.8	97.6	94.2
1973	98.7	101.1	99.6	100.9	98.5	98.9	97.1
1974	103.3	105.5	108.3	104.8	102.7	106.0	90.4
1975	104.7	100.3	97.4	93.0	97.1	98.7	91.3
1976	105.4	104.5	105.5	100.1	101.0	102.5	95.3
1977	105.0	106.1	102.9	98.0	97.0	97.3	96.2
1978	105.0	107.7	106.1	101.0	98.5	98.9	97.1
1979	102.8	103.3	108.3	105.4	104.8	105.4	103.0
1980	99.3	100.4	109.6	110.4	109.2	109.4	108.7
1981	96.9	99.1	107.9	111.4	108.9	108.6	110.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	108.7	110.6	110.7	101.8	100.1	100.0	101.0
1984	112.4	114.0	111.5	99.2	97.8	97.5	99.0
1985	114.4	117.1	112.9	98.7	96.4	96.6	95.2
1986	120.6	125.9	125.1	103.7	99.4	98.5	102.9
1987	119.4	123.5	132.1	110.6	107.0	108.5	101.0
1988	116.6	122.0	129.7	111.2	106.3	109.8	93.2
1989	112.3	116.6	130.1	115.8	111.6	114.8	99.1
1990	110.4	116.4	125.8	113.9	108.1	111.0	97.2
Average annual percent change:							
1954-90	1.8	1.9	3.3	1.4	1.4	1.3	1.7
1979-90	.7	1.1	1.4	.7	.3	.5	-.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 61. Industrial inorganic chemicals (SIC 281): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	112.8	113.6	109.6	97.2	96.5	106.0	81.4
1973	118.4	120.9	116.7	98.6	96.5	108.4	77.7
1974	120.7	123.3	127.2	105.4	103.2	114.0	86.0
1975	100.2	100.9	105.2	105.0	104.3	109.6	96.0
1976	109.5	110.9	115.0	105.0	103.7	107.8	97.0
1977	115.9	117.7	121.0	104.4	102.8	109.0	93.0
1978	118.9	121.0	127.7	107.4	105.5	111.4	96.4
1979	130.0	133.2	131.2	100.9	98.5	104.0	89.7
1980	109.2	109.6	116.0	106.2	105.8	108.5	101.4
1981	105.9	107.1	113.3	107.0	105.8	106.4	104.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	111.0	110.8	105.9	95.4	95.6	95.7	95.7
1984	125.6	127.7	117.1	93.2	91.7	92.2	91.0
1985	123.9	127.1	116.2	93.8	91.4	90.9	92.3
1986	131.3	135.3	114.1	86.9	84.3	82.2	87.7
1987	143.9	147.5	112.7	78.3	76.4	74.6	79.3
1988	138.4	148.2	117.2	84.7	79.1	78.4	80.3
1989	130.3	134.1	107.4	82.4	80.1	80.4	79.6
1990	130.9	136.9	113.6	86.8	83.0	82.5	84.0
Average annual percent change:							
1972-90	.8	1.0	.2	-.6	-.8	-1.4	.2
1979-90	.1	.2	-1.3	-1.4	-1.5	-2.1	-.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 62. Alkalies and chlorine (SIC 2812): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	101.4	102.3	179.1	176.6	175.0	192.0	142.4
1973	101.2	104.2	182.3	180.1	175.0	193.8	138.5
1974	112.5	116.2	209.5	186.3	180.3	197.8	146.2
1975	89.3	92.3	171.3	191.9	185.6	195.9	165.5
1976	97.3	100.5	175.8	180.7	175.0	175.9	173.1
1977	99.2	100.9	156.7	158.0	155.3	160.0	146.2
1978	105.7	109.3	155.3	146.9	142.1	145.8	134.6
1979	107.1	108.4	107.1	100.0	98.8	100.0	96.2
1980	114.5	108.6	105.8	92.4	97.4	100.0	92.4
1981	94.6	97.1	95.9	101.4	98.8	97.9	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	128.7	132.0	126.9	98.6	96.1	95.9	96.2
1984	149.7	156.9	152.8	102.1	97.4	102.0	88.5
1985	154.0	156.5	168.9	109.7	107.9	112.0	100.0
1986	208.2	211.8	186.8	89.7	88.2	90.0	84.6
1987	204.9	214.9	141.4	69.0	65.8	70.0	57.7
1988	208.2	221.9	189.7	91.1	85.5	88.0	80.8
1989	191.5	207.1	177.1	92.5	85.5	92.0	73.1
1990	186.0	199.3	178.4	95.9	89.5	94.0	80.8
Average annual percent change:							
1972-90	3.4	3.8	.0	-3.3	-3.7	-3.9	-3.1
1979-90	5.1	5.7	4.7	-4	-9	-6	-1.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 63. Inorganic pigments (SIC 2816): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	117.1	121.2	138.5	118.3	114.3	132.4	86.3
1973	118.5	126.5	149.1	125.8	117.9	141.3	81.8
1974	119.4	126.8	176.6	147.9	139.3	161.8	104.4
1975	107.8	112.1	124.1	115.1	110.7	122.1	93.2
1976	104.4	108.1	124.5	119.3	115.2	126.6	97.7
1977	103.4	107.3	114.1	110.4	106.3	117.6	88.7
1978	108.5	112.7	121.8	112.3	108.1	120.6	88.7
1979	108.6	113.6	114.7	105.6	101.0	111.9	84.1
1980	105.7	108.7	115.6	109.4	106.3	110.4	100.0
1981	108.6	110.4	116.3	107.1	105.3	108.9	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	110.8	113.3	109.2	98.6	96.4	97.1	95.5
1984	131.2	133.1	112.7	85.9	84.7	88.2	79.5
1985	135.3	137.2	118.8	87.8	86.6	88.2	84.1
1986	141.0	145.6	118.4	84.0	81.3	82.4	79.5
1987	155.4	160.5	118.9	76.5	74.1	75.0	72.7
1988	158.1	167.3	132.8	84.0	79.4	77.9	81.8
1989	165.1	164.7	127.8	77.4	77.6	75.0	81.8
1990	157.3	166.4	126.3	80.3	75.9	77.9	72.7
Average annual percent change:							
1972-90	1.7	1.8	-.5	-2.1	-2.2	-2.9	-.9
1979-90	3.4	3.5	.9	-2.5	-2.6	-3.2	-1.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 64. Industrial inorganic chemicals, not elsewhere classified (SIC 2819 part): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	115.0	117.3	89.6	77.9	76.4	84.4	63.5
1973	122.0	124.5	96.5	75.1	77.5	84.6	66.0
1974	126.3	129.0	106.2	84.1	82.3	89.8	70.5
1975	103.9	104.6	92.8	89.3	88.7	91.8	83.5
1976	116.2	117.9	106.1	91.3	90.0	92.5	86.0
1977	123.8	126.7	119.6	96.6	94.4	99.3	86.5
1978	125.7	128.6	127.8	101.7	99.4	104.1	92.0
1979	141.8	147.2	143.8	101.4	97.7	102.2	90.5
1980	111.7	113.9	120.9	108.2	106.1	107.9	103.5
1981	110.5	113.1	118.5	107.2	104.8	104.7	105.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	108.9	108.0	102.6	94.2	95.0	95.9	93.5
1984	123.8	126.4	113.8	91.9	90.0	90.0	90.0
1985	122.2	126.5	109.4	89.5	86.5	86.2	87.0
1986	124.2	130.2	103.6	83.4	79.6	79.4	80.0
1987	139.8	144.4	106.4	76.1	73.7	72.8	75.0
1988	129.7	142.1	104.7	80.7	73.7	73.7	73.5
1989	120.0	124.2	93.0	77.5	74.9	75.9	73.0
1990	122.3	129.3	101.0	82.6	78.1	77.8	78.5
Average annual percent change:							
1972-90	3	5	7	3	1	-5	12
1979-90	-1.3	-1.2	-3.2	-1.8	-2.0	-2.4	-1.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 65. Synthetic fibers (SIC 2823, 2824): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	43.4	45.4	58.5	134.8	128.8	132.3	120.1
1968	50.2	53.3	74.3	148.0	139.3	146.2	121.2
1969	50.6	53.6	77.1	152.3	143.9	150.5	126.8
1970	51.9	54.0	75.9	146.3	140.5	145.2	129.0
1971	61.0	63.4	87.6	143.6	138.1	144.9	120.1
1972	70.4	74.1	102.3	145.4	138.0	145.9	117.0
1973	76.6	81.2	115.6	150.9	142.3	152.0	118.1
1974	75.1	78.2	114.6	152.6	146.6	153.7	128.3
1975	81.5	82.9	103.2	126.7	124.5	126.4	120.1
1976	86.4	87.8	109.1	126.3	124.3	126.4	119.6
1977	96.2	99.3	120.0	124.7	120.9	125.1	110.3
1978	101.4	105.0	126.2	124.4	120.2	124.9	108.3
1979	110.7	115.1	135.7	122.6	117.9	123.0	104.9
1980	111.3	114.2	124.7	112.0	109.2	112.0	102.4
1981	116.6	119.2	125.2	107.4	105.0	107.4	99.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	121.2	123.3	115.5	95.3	93.7	95.2	89.8
1984	120.9	125.7	113.8	94.1	90.5	92.4	85.9
1985	130.8	136.2	115.4	88.2	84.7	85.3	82.9
1986	140.7	147.5	118.9	84.5	80.6	82.9	74.6
1987	151.7	163.6	122.9	81.0	75.1	76.1	67.3
1988	158.7	170.3	128.1	80.7	75.2	76.5	66.8
1989	155.2	164.7	128.5	82.8	78.0	81.5	69.2
1990	150.2	160.3	124.4	82.8	77.6	80.4	70.7
1991 ¹	155.5	167.1	126.3	81.2	75.6	72.6	83.8
Average annual percent change:							
1957-91	5.0	5.1	4.4	-5	-6	-9	1
1979-90	2.8	3.1	-8	-3.5	-3.7	-3.8	-3.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Fiber Economics Bureau, Inc. and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 66. Soaps and detergents (SIC 2841): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	78.6	77.4	68.1	86.6	88.0	91.7	81.4
1968	79.6	78.4	72.4	90.9	92.4	94.8	88.1
1969	79.5	78.5	74.9	94.2	95.4	95.8	94.8
1970	83.2	81.8	78.6	94.5	96.1	95.1	98.0
1971	85.3	82.9	76.1	89.2	91.8	90.3	94.8
1972	94.5	93.6	85.9	90.9	91.8	91.0	93.4
1973	100.0	99.7	91.9	91.9	92.2	90.6	95.5
1974	103.9	103.1	93.5	90.0	90.7	89.8	92.1
1975	96.5	96.1	84.6	87.7	88.0	87.8	88.7
1976	99.3	99.3	89.3	89.9	89.9	87.8	94.1
1977	99.1	99.3	91.6	92.4	92.2	88.7	98.7
1978	104.7	105.6	99.3	94.8	94.0	92.6	96.7
1979	103.8	104.4	100.2	96.5	96.0	95.1	98.0
1980	108.7	108.0	107.2	98.6	99.3	98.0	102.0
1981	106.4	105.5	107.6	101.1	102.0	102.6	101.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	97.4	98.3	96.1	96.7	97.8	96.9	99.2
1984	102.3	104.6	99.1	96.9	94.7	94.3	95.4
1985	104.3	106.0	102.1	97.9	96.3	94.0	100.6
1986	106.2	108.3	106.7	100.5	98.5	96.2	102.6
1987	114.4	115.7	117.6	102.8	101.6	98.2	107.9
1988	117.5	118.2	119.9	102.0	101.4	96.5	110.6
1989	125.8	124.9	124.0	98.6	99.3	95.4	106.6
1990	148.5	147.2	144.8	97.5	98.4	97.2	100.6
Average annual percent change:							
1968-90	2.8	2.9	3.8	.9	.9	.7	1.2
1979-90	3.3	3.2	3.4	1	2	.2	2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 67. Cosmetics and other toiletries (SIC 2844): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	74.5	74.5	52.4	70.3	70.3	64.4	61.4
1968	80.4	80.1	60.4	75.1	75.4	70.1	65.9
1969	77.2	77.4	62.6	81.1	80.9	74.9	63.0
1970	78.5	79.2	67.5	86.0	85.2	74.8	105.7
1971	87.5	87.2	68.8	78.6	78.9	66.4	103.4
1972	98.4	98.1	78.6	79.5	80.1	68.6	102.3
1973	104.1	104.3	85.7	82.3	82.2	68.8	108.6
1974	109.1	109.7	89.0	81.6	81.1	73.3	96.7
1975	112.0	112.7	88.5	79.0	78.5	72.3	91.0
1976	112.5	113.1	96.5	85.8	85.3	79.7	96.7
1977	119.1	118.5	101.0	84.8	85.2	79.7	96.2
1978	118.8	117.5	106.0	89.2	90.2	85.4	100.0
1979	112.1	111.0	102.2	91.2	92.1	85.6	104.8
1980	99.6	100.2	92.1	92.5	91.9	87.9	100.0
1981	90.7	90.5	91.5	100.9	101.1	101.3	101.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.1	104.2	104.7	101.6	100.5	100.6	100.9
1984	102.3	102.6	109.5	107.0	106.7	109.7	100.9
1985	105.0	104.5	111.8	106.5	107.0	110.3	100.9
1986	113.8	113.0	116.8	102.6	103.4	107.5	95.2
1987	118.0	118.2	128.0	108.5	108.3	114.2	97.2
1988	122.9	120.0	139.9	113.8	116.6	123.2	103.8
1989	119.4	117.3	138.8	116.2	118.3	121.0	113.3
1990	118.1	118.8	137.4	116.3	115.7	113.7	119.9
Average annual percent change:							
1968-90	2.9	2.9	5.8	2.8	2.8	2.9	2.6
1979-90	5	6	2.7	2.2	2.1	2.6	1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 68. Paints and allied products (SIC 2851): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	69.2	70.8	83.7	121.0	118.3	126.0	110.1
1968	75.1	78.2	91.0	119.6	116.3	124.6	107.7
1969	78.8	80.3	95.8	121.5	119.3	129.4	108.5
1970	70.3	71.4	91.1	129.6	127.6	137.8	116.5
1971	79.0	79.4	96.5	122.2	121.6	129.4	113.2
1972	82.7	84.6	103.1	124.7	121.9	131.1	112.1
1973	77.3	77.5	99.3	128.5	128.2	141.6	114.0
1974	84.9	86.8	104.2	122.7	120.0	126.8	112.9
1975	88.5	89.8	99.5	112.4	110.8	112.7	108.7
1976	91.2	93.3	104.2	114.2	111.7	115.7	107.6
1977	93.9	95.5	108.5	115.5	113.6	119.6	107.2
1978	98.0	99.3	113.0	115.3	113.8	119.2	107.9
1979	98.5	99.1	115.6	117.4	116.6	126.0	106.8
1980	94.6	94.7	109.1	115.3	115.2	118.4	111.7
1981	93.7	94.3	104.8	111.8	111.1	114.0	107.9
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.5	106.9	106.0	99.5	99.2	99.6	98.5
1984	113.6	114.2	116.7	102.7	102.2	105.3	98.9
1985	117.3	117.9	121.1	103.2	102.7	105.0	100.0
1986	118.8	120.0	123.8	104.2	103.2	104.3	101.9
1987	119.6	121.1	123.5	103.3	102.0	102.5	101.5
1988	123.2	125.1	129.1	104.8	103.2	104.5	101.8
1989	127.3	129.3	131.6	103.4	101.8	105.4	98.4
1990	132.9	134.9	134.6	101.3	99.8	103.5	96.1
1991 ¹	133.7	135.7	128.1	95.8	94.4	98.5	90.4
Average annual percent change							
1958-91	2.9	2.9	2.5	-4	-3	-5	-1
1979-90	2.8	2.8	1.4	-1.3	-1.4	-1.8	-1.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 69. Industrial organic chemicals, not elsewhere classified (SIC 2869): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	64.6	65.5	55.7	86.2	85.0	96.1	69.9
1968	66.7	68.5	60.5	90.7	88.3	97.9	74.8
1969	71.0	73.4	66.7	94.0	90.9	101.1	76.7
1970	75.1	76.4	71.2	94.8	93.2	102.2	80.8
1971	83.3	84.0	75.3	90.4	89.6	98.2	77.8
1972	93.5	93.8	85.9	91.9	91.6	99.2	81.0
1973	103.6	105.9	97.4	94.0	92.0	101.7	78.4
1974	117.9	120.9	110.9	94.1	91.7	101.0	78.8
1975	97.8	98.2	92.1	94.2	93.8	99.8	85.7
1976	107.1	108.4	105.9	98.9	97.7	105.8	86.8
1977	114.8	116.7	117.2	102.1	100.4	108.8	88.9
1978	117.9	120.2	122.4	103.8	101.8	108.2	93.2
1979	130.2	132.8	136.8	105.1	103.0	110.6	92.7
1980	113.5	114.4	120.0	105.7	104.9	108.9	99.1
1981	119.3	121.6	121.8	102.1	100.2	103.4	95.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	120.6	121.4	115.8	96.0	95.4	96.7	93.6
1984	130.6	131.9	122.0	93.4	92.5	93.4	91.2
1985	129.1	130.1	112.3	87.0	86.3	86.6	85.8
1986	136.5	139.5	108.1	79.2	77.5	78.9	75.6
1987	150.6	154.2	129.2	85.8	83.8	83.2	84.6
1988	162.5	166.9	137.0	84.3	82.1	87.7	75.6
1989	158.9	164.4	141.9	89.3	86.3	91.0	80.7
1990	147.6	153.3	138.6	93.9	90.4	89.9	91.2
1991 ¹	141.4	146.7	132.8	93.9	90.5	83.4	98.9
Average annual percent change:							
1963-91	3.5	3.6	4.2	.7	.6	-1	1.7
1979-90	1.1	1.3	.1	-1.0	-1.2	-1.9	-1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 70. Agricultural chemicals (SIC 287): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	79.7	80.5	75.7	95.0	94.0	97.5	88.1
1973	91.9	94.0	86.3	93.9	91.8	96.3	84.4
1974	101.5	103.4	100.8	99.3	97.5	104.5	86.0
1975	91.9	93.2	95.3	103.7	102.2	107.3	93.7
1976	97.8	99.9	101.9	104.2	102.0	105.5	96.4
1977	105.9	106.9	113.0	106.7	105.7	111.7	95.9
1978	107.4	108.1	113.0	105.2	104.5	108.5	97.9
1979	108.1	110.8	115.3	106.7	104.1	110.2	94.2
1980	102.9	107.4	116.9	113.6	108.8	112.5	102.6
1981	103.4	108.1	117.6	113.7	108.8	112.5	102.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	112.2	111.3	100.2	89.3	90.0	90.5	89.0
1984	126.8	127.2	113.2	89.3	89.0	90.9	86.0
1985	122.3	121.7	107.1	87.6	88.0	89.0	86.5
1986	114.9	116.3	93.3	81.2	80.2	79.4	81.3
1987	130.7	132.7	104.8	80.2	79.0	77.0	82.4
1988	133.4	137.4	110.3	82.7	80.3	79.2	82.4
1989	133.1	137.3	111.8	84.0	81.4	81.1	81.9
1990	140.4	146.7	123.1	87.7	83.9	84.2	83.4
Average annual percent change:							
1972-90	3.2	3.4	2.7	-4	-6	-8	-3
1979-90	2.4	2.6	6	-1.8	-1.9	-2.4	-1.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 71. Nitrogenous fertilizers (SIC 2873): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	72.1	73.3	66.2	91.8	90.3	96.9	80.6
1973	80.7	83.4	73.8	91.4	88.5	100.0	70.7
1974	86.8	87.1	84.7	97.6	97.2	112.8	73.2
1975	82.8	84.3	85.9	103.8	101.9	112.8	85.4
1976	83.4	87.8	95.3	114.3	108.6	117.6	95.3
1977	87.2	88.7	103.1	118.2	116.3	125.5	102.5
1978	95.5	95.1	110.6	115.8	116.3	119.1	112.2
1979	96.5	96.5	102.9	106.6	106.6	112.8	97.5
1980	108.4	108.4	114.7	105.8	105.8	114.3	92.7
1981	106.0	109.9	113.0	106.6	102.8	108.0	95.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	112.0	110.6	92.7	82.8	83.8	80.9	87.8
1984	133.6	131.5	107.4	80.4	81.7	82.4	80.6
1985	131.4	127.4	106.8	81.3	83.8	85.7	80.6
1986	117.3	119.4	75.8	64.6	63.5	63.5	63.4
1987	138.0	138.2	96.4	71.3	71.2	71.4	70.7
1988	140.4	142.4	98.7	70.3	69.3	69.8	68.3
1989	140.8	143.9	97.0	68.9	67.4	69.8	63.4
1990	148.8	150.8	108.9	73.2	72.2	76.2	65.8
Average annual percent change:							
1972-90	4.1	4.1	2.8	-1.2	-1.2	-1.3	-1.1
1979-90	4.0	4.1	5	-3.4	-3.5	-3.5	-3.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 72. Phosphatic fertilizers (SIC 2874): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	83.0	85.5	89.1	107.4	104.2	111.4	89.1
1973	100.8	105.3	96.5	95.7	91.6	99.0	76.1
1974	111.4	117.0	121.1	106.7	103.5	114.5	80.4
1975	93.1	95.3	106.7	114.6	112.0	120.6	93.5
1976	105.9	108.1	112.6	106.3	104.2	110.3	91.3
1977	113.8	117.3	118.1	103.8	100.7	104.2	93.5
1978	110.6	115.2	116.8	105.6	101.4	105.2	93.5
1979	107.3	113.1	117.9	109.9	104.2	108.3	95.6
1980	105.7	113.8	124.2	117.5	109.1	113.4	100.0
1981	96.0	102.5	111.8	116.5	109.1	111.4	104.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	121.9	123.3	111.2	91.2	90.2	93.8	82.6
1984	126.8	128.9	126.3	92.3	90.9	91.8	89.1
1985	127.0	126.8	115.3	90.8	90.9	89.7	93.5
1986	116.3	116.2	91.8	78.9	79.0	75.3	87.0
1987	144.8	149.1	96.9	66.9	65.0	62.9	69.6
1988	133.5	140.9	102.4	76.7	72.7	73.2	71.7
1989	123.7	128.6	97.1	78.5	75.5	76.3	74.0
1990	149.9	161.7	118.7	79.2	73.4	77.4	65.2
Average annual percent change:							
1972-90	3.3	3.6	1.6	-1.7	-1.9	-2.0	-1.7
1979-90	3.1	3.3	1	-2.9	3.1	-3.0	-3.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 73. Fertilizers, mixing only (SIC 2875): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	99.9	98.0	114.0	114.1	116.3	120.0	110.5
1973	105.5	104.6	128.1	121.4	122.5	128.3	113.1
1974	119.9	116.2	131.6	109.8	113.3	120.0	102.6
1975	120.8	116.4	131.9	109.2	113.3	118.4	105.2
1976	130.7	128.2	138.1	104.1	106.2	111.6	97.3
1977	125.3	123.2	156.0	124.5	126.6	135.0	113.1
1978	128.6	125.7	139.9	108.8	111.3	116.6	102.6
1979	134.2	138.7	147.3	109.8	106.2	118.4	86.8
1980	113.5	121.0	155.6	137.1	128.6	128.3	129.0
1981	104.4	111.0	138.0	130.3	122.5	123.3	121.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	115.1	112.3	106.7	92.7	95.0	96.7	92.1
1984	124.2	122.1	105.9	85.3	86.7	91.7	78.9
1985	128.4	126.9	106.2	82.7	83.7	86.7	78.9
1986	119.7	119.8	100.3	83.8	83.7	85.0	81.6
1987	127.7	128.5	98.3	77.0	76.5	78.3	73.7
1988	131.2	131.0	100.2	76.4	76.5	78.3	73.7
1989	141.4	145.3	94.9	67.1	65.3	68.3	60.5
1990	139.0	146.5	106.2	76.4	72.5	71.7	73.7
Average annual percent change:							
1972-90	1.9	2.3	-4	-2.2	-2.6	-2.8	-2.2
1979-90	3	5	-2.9	-3.2	-3.4	-4.5	-1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 74. Agricultural chemicals, not elsewhere classified (SIC 2879): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	72.6	72.7	53.7	74.0	73.9	70.1	79.4
1973	86.7	88.1	66.7	76.9	75.7	71.1	82.3
1974	95.0	97.6	80.9	85.2	82.9	79.4	88.3
1975	83.3	86.0	75.0	90.0	87.2	83.5	92.6
1976	85.3	87.3	81.5	95.5	93.4	88.7	100.0
1977	104.4	104.3	94.7	90.7	90.8	95.9	83.7
1978	102.9	102.7	98.3	95.5	95.7	100.0	89.7
1979	104.2	104.9	106.2	101.9	101.2	105.3	95.6
1980	92.5	94.3	93.1	100.6	98.7	101.1	95.6
1981	110.4	111.6	116.4	105.4	104.3	110.4	95.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.9	101.0	91.2	90.0	90.8	89.7	92.6
1984	115.6	118.3	108.7	94.9	92.7	94.8	89.7
1985	108.7	110.9	100.7	92.6	90.8	91.8	89.7
1986	109.4	113.3	101.6	92.9	89.7	90.7	88.2
1987	119.2	122.5	119.6	100.3	97.6	93.8	102.9
1988	129.6	134.9	130.0	100.3	96.4	91.7	102.9
1989	128.7	134.9	142.3	110.6	105.5	101.0	111.7
1990	125.3	130.3	139.7	111.5	107.2	105.2	110.2
Average annual percent change:							
1972-90	3.1	3.3	5.5	2.3	2.1	2.3	1.8
1979-90	1.7	2.0	2.5	.8	.5	.0	1.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 75. Petroleum refining (SIC 2911): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	88.6	87.3	85.6	96.6	98.1	106.0	83.1
1968	90.6	90.0	86.7	97.9	98.6	105.7	84.7
1969	93.4	95.5	90.4	96.6	94.7	100.0	84.5
1970	92.8	92.7	91.9	99.0	99.1	105.7	86.4
1971	97.2	96.3	94.5	97.2	98.1	104.2	86.7
1972	106.8	105.7	98.0	71.8	92.7	99.8	79.2
1973	117.9	115.3	103.9	88.1	90.1	96.1	78.6
1974	108.9	107.6	101.8	93.5	94.6	102.6	79.4
1975	111.7	109.1	100.9	90.3	92.5	98.1	81.6
1976	117.0	118.9	109.4	93.5	93.6	99.4	82.4
1977	125.7	124.5	117.4	93.4	94.3	99.3	84.7
1978	127.5	128.6	120.4	94.4	93.6	98.4	84.2
1979	119.5	119.7	119.3	99.8	99.7	102.1	84.9
1980	118.5	118.0	111.5	94.1	94.5	97.5	88.7
1981	105.4	105.8	105.9	100.5	100.1	101.8	86.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.7	103.6	99.0	96.4	95.6	93.8	98.7
1984	116.3	118.6	103.7	89.2	87.4	86.3	89.3
1985	128.8	131.1	103.7	80.5	79.1	79.0	79.4
1986	142.6	140.9	109.5	76.8	77.7	77.6	77.7
1987	143.4	143.2	110.7	77.2	77.3	77.9	76.1
1988	151.9	153.1	114.2	75.2	74.6	75.5	72.9
1989	157.8	158.6	115.0	72.9	72.5	73.3	70.9
1990	157.5	159.2	115.9	73.6	72.8	73.8	70.9
1991 ¹	155.4	156.3	116.1	74.7	74.3	74.6	73.4
Average annual percent change:							
1947-91	4.0	3.9	2.5	-1.4	-1.3	-1.7	-3
1979-90	2.5	2.6	-3	-2.7	-2.8	-2.9	-2.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 76. Tires and inner tubes (SIC 3011): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	64.5	65.8	86.7	134.4	131.8	130.7	135.7
1968	69.1	75.6	105.5	152.7	139.5	139.0	142.7
1969	66.7	73.7	107.7	161.5	146.2	145.7	148.3
1970	68.3	71.3	102.0	149.4	143.0	140.6	152.2
1971	73.5	77.0	114.8	156.1	149.1	147.5	154.7
1972	76.2	81.9	125.2	164.2	152.8	152.4	155.3
1973	74.2	77.6	126.5	170.6	163.0	161.8	167.4
1974	72.8	77.2	128.6	176.7	166.6	164.6	175.1
1975	71.6	73.4	110.9	154.9	151.0	146.4	166.1
1976	77.8	74.1	109.4	140.6	147.6	144.3	159.7
1977	78.0	82.7	134.0	171.9	162.1	161.8	163.7
1978	84.0	88.7	129.7	154.4	146.2	148.5	138.8
1979	83.6	85.7	125.7	150.3	146.7	148.5	141.4
1980	79.9	79.6	98.7	123.6	124.0	121.3	134.4
1981	92.1	93.9	105.9	115.0	112.8	114.3	108.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	107.6	113.3	108.0	100.4	95.3	95.7	93.6
1984	117.6	125.0	125.1	106.4	100.1	103.2	89.8
1985	118.9	120.4	120.4	101.3	100.0	102.4	91.7
1986	124.3	127.4	118.1	95.0	92.7	94.7	86.0
1987	134.9	141.8	131.9	97.8	93.0	96.3	81.5
1988	140.7	150.5	137.7	97.9	91.5	96.1	77.1
1989	143.4	150.7	140.0	97.6	92.9	100.8	71.7
1990	146.1	150.7	139.1	95.2	92.3	97.8	76.1
1991 ¹	147.4	149.9	132.7	90.0	88.5	93.6	72.7
Average annual percent change							
1947-91	3.7	3.7	2.1	-1.5	-1.5	-1.4	-1.5
1979-90	5.2	5.3	.9	-4.1	-4.1	-3.7	-5.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 77. Rubber and plastic hose and belting (SIC 3052): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	88.1	95.2	121.8	138.3	128.0	127.8	129.0
1973	93.9	98.4	119.0	128.7	120.9	125.0	110.9
1974	100.7	107.0	134.1	133.2	125.3	131.7	109.5
1975	103.3	107.3	117.3	113.6	109.3	109.8	108.2
1976	103.7	105.6	126.7	122.2	120.0	117.6	126.2
1977	99.3	104.3	144.1	145.1	138.1	132.3	152.6
1978	97.0	103.1	158.1	163.0	153.3	145.2	173.3
1979	96.2	102.0	158.5	164.8	155.4	147.0	176.3
1980	88.8	92.0	119.7	134.8	130.1	120.5	153.9
1981	114.7	119.4	129.0	112.5	108.0	111.2	92.9
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	111.1	113.3	101.5	91.4	89.6	89.8	88.8
1984	115.2	124.6	123.6	103.7	99.2	102.3	91.7
1985	114.7	119.5	114.2	99.6	95.6	97.7	90.3
1986	116.4	123.2	113.8	97.8	92.4	94.4	87.4
1987	113.1	122.2	113.9	100.7	93.2	93.8	91.7
1988	121.2	134.2	125.1	103.2	93.2	111.1	63.3
1989	105.1	116.7	114.2	104.6	96.2	115.7	64.3
1990	105.1	124.9	115.0	99.9	92.1	110.4	61.4
Average annual percent change							
1972-90	1.5	1.5	-3	-1.8	-1.8	-8	-4.0
1979-90	1.6	1.9	-2.9	-4.4	-4.6	-2.6	-9.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 78. Miscellaneous plastics products, not elsewhere classified (SIC 308): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	78.6	80.2	60.4	76.8	75.3	77.4	66.9
1973	85.0	86.5	73.0	85.9	84.4	87.2	74.4
1974	78.4	78.8	66.5	84.8	84.4	86.2	77.5
1975	78.4	79.0	58.2	74.2	73.7	73.1	75.6
1976	81.3	82.5	69.1	85.0	83.8	84.7	79.9
1977	91.0	92.7	86.0	94.5	92.8	94.7	86.0
1978	91.6	93.5	95.2	103.9	101.8	104.0	93.5
1979	86.0	87.3	93.6	108.8	107.2	109.5	98.8
1980	87.1	87.8	88.9	102.1	101.3	101.8	98.8
1981	89.5	90.6	95.0	106.1	104.9	105.9	100.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	97.4	100.7	106.1	108.9	105.4	106.6	101.0
1984	100.4	104.2	122.9	122.4	117.9	120.6	108.5
1985	102.7	105.5	127.5	124.1	120.9	122.7	114.0
1986	103.7	106.9	133.2	128.4	124.6	126.3	117.8
1987	117.1	121.0	156.0	133.2	128.9	130.4	123.5
1988	114.9	118.8	158.5	137.9	133.4	135.6	125.8
1989	113.6	117.2	160.8	141.5	137.2	139.2	129.9
1990	117.2	120.1	165.7	141.4	138.0	139.6	132.2
1991 ¹	117.1	120.5	162.4	138.7	134.8	134.9	134.1
Average annual percent change							
1972-91	2.1	2.2	5.3	3.2	3.1	3.0	3.7
1979-90	2.9	2.9	5.3	2.4	2.3	2.2	2.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 79. Footwear (SIC 314): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	90.9	96.1	166.9	183.9	173.7	177.7	142.9
1968	94.1	100.3	177.6	188.8	177.1	181.1	145.7
1969	87.8	91.6	158.5	180.6	173.0	175.9	146.6
1970	94.3	98.7	156.0	165.5	158.0	160.2	141.4
1971	96.1	100.7	147.2	153.2	146.2	147.4	136.5
1972	93.6	100.3	145.5	155.5	145.1	146.3	136.5
1973	92.6	97.7	136.7	147.7	139.9	140.8	133.0
1974	91.0	94.4	126.0	138.5	133.5	133.3	134.4
1975	95.2	98.1	117.7	123.6	120.0	120.3	117.1
1976	96.0	98.9	121.9	127.0	123.3	123.9	117.1
1977	94.0	96.3	115.5	122.9	119.9	120.3	115.7
1978	96.3	97.6	115.6	120.0	118.5	119.7	108.7
1979	94.2	95.7	109.1	115.8	114.0	113.8	115.0
1980	93.1	94.8	105.5	113.3	111.3	110.7	114.4
1981	89.9	92.8	102.1	112.6	110.0	109.7	110.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	97.7	99.7	93.1	95.3	93.4	93.2	95.0
1984	99.3	99.9	83.3	83.9	83.4	83.8	88.6
1985	101.0	103.1	73.1	72.4	70.9	70.5	74.3
1986	102.8	104.0	65.0	63.2	62.5	61.5	70.0
1987	100.6	107.7	63.1	62.7	58.6	57.9	63.6
1988	102.8	108.7	62.6	60.9	57.6	56.4	66.3
1989	101.4	107.2	58.1	57.3	54.2	53.0	62.0
1990	92.9	96.3	49.9	53.7	51.8	50.4	61.5
1991 ¹	90.8	93.7	44.5	49.0	47.5	45.8	59.3
Average annual percent change							
1947-91	8	7	-2.5	-3.3	-3.2	-3.4	-1.9
1979-90	-1	1	-6.9	-5.7	-6.9	-7.1	-5.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 80. Glass containers (SIC 3221): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	77.9	79.9	90.1	115.7	112.9	114.6	100.0
1968	81.7	81.8	88.4	108.2	108.1	108.8	102.7
1969	84.3	84.9	102.7	121.8	121.0	122.6	109.5
1970	82.4	84.0	105.5	128.0	125.6	128.0	109.5
1971	84.0	84.9	103.8	123.6	122.2	123.3	113.6
1972	83.8	85.3	105.3	125.7	123.4	124.5	115.0
1973	87.5	87.4	108.0	123.4	123.6	124.5	117.7
1974	93.8	93.4	106.8	113.8	114.4	115.2	108.2
1975	93.0	90.2	106.8	114.8	118.4	119.3	112.3
1976	92.8	93.9	113.2	122.0	120.6	121.8	112.3
1977	94.5	93.2	111.7	118.2	119.8	120.6	113.6
1978	93.9	94.6	116.4	123.9	123.1	124.2	115.0
1979	96.8	96.5	110.5	114.1	114.5	115.4	108.2
1980	99.4	99.4	108.4	109.0	109.1	109.0	109.5
1981	104.1	103.0	106.3	102.1	103.2	103.0	104.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.3	99.6	92.7	93.4	93.1	92.9	94.5
1984	113.0	109.7	90.1	79.7	82.1	81.7	84.9
1985	106.4	110.7	82.6	76.2	74.6	74.3	76.7
1986	114.3	117.1	84.8	74.2	72.4	73.0	68.5
1987	116.1	117.0	81.3	70.0	69.5	69.5	69.9
1988	117.5	117.8	80.6	68.6	68.4	69.0	63.7
1989	121.8	124.2	81.7	67.1	65.8	66.4	60.6
1990	130.5	133.4	82.2	63.0	61.6	61.9	59.0
1991 ¹	131.3	135.5	80.1	61.0	59.1	59.3	57.4
Average annual percent change							
1947-91	1.9	1.7	1.0	-7	-7	-7	-5
1979-90	2.8	3.0	-2.7	-5.3	-5.5	-5.5	-5.4

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 81. Hydraulic cement (SIC 3241): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	81.8	84.8	112.3	137.3	132.4	137.3	116.4
1968	80.8	85.8	119.8	132.0	125.1	130.4	107.3
1969	91.7	97.9	121.0	131.9	123.6	129.0	105.4
1970	90.1	95.6	117.9	130.2	122.7	127.2	107.3
1971	99.3	105.9	123.7	124.6	116.8	121.5	101.8
1972	100.9	107.1	130.6	129.4	121.9	127.2	103.7
1973	106.0	112.3	135.4	127.7	120.6	125.2	105.4
1974	97.2	101.5	127.8	131.6	126.0	130.4	111.0
1975	90.0	92.3	107.6	119.5	116.6	119.3	107.3
1976	98.4	101.1	115.4	117.3	114.2	116.8	105.4
1977	106.2	110.0	124.3	117.0	113.0	116.2	101.8
1978	107.7	113.8	132.7	123.2	116.6	120.0	105.5
1979	102.0	107.9	133.4	130.8	123.6	128.4	107.3
1980	92.4	95.8	118.4	128.2	123.6	126.6	112.7
1981	96.8	99.2	113.3	117.0	114.2	116.8	105.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	115.2	118.1	110.9	96.3	93.9	93.2	96.4
1984	133.1	133.4	122.6	92.1	91.9	91.0	94.5
1985	136.2	142.2	122.6	90.0	86.2	83.2	86.4
1986	143.8	154.4	123.7	86.0	80.1	79.0	87.3
1987	148.1	158.4	122.9	83.0	77.6	75.0	83.6
1988	152.7	165.0	120.8	79.0	73.1	70.6	81.9
1989	163.0	174.0	121.3	74.4	69.7	67.3	78.3
1990	166.2	1	121.0	72.8	67.8	65.9	74.7
1991 ¹	149.9	1	109.3	72.9	68.2	65.9	76.5
Average annual percent change							
1947-91	3.4	3.3	1.3	-2.1	-2.0	-2.3	-4
1979-90	4.5	4.7	-9	-5.2	-5.3	-5.9	-3.2

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 82. Structural clay products (SIC 325): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	67.5	69.1	139.6	206.7	202.1	213.9	159.9
1968	71.9	74.1	148.7	206.8	200.6	211.6	161.6
1969	72.3	75.1	150.4	208.0	200.3	211.3	161.6
1970	76.2	79.1	139.6	183.2	176.5	181.0	161.6
1971	82.9	86.2	144.5	174.3	167.7	171.0	157.0
1972	86.0	88.8	153.9	179.0	173.4	181.7	143.0
1973	88.8	90.9	156.5	176.2	172.2	183.9	130.7
1974	90.8	93.0	162.7	179.2	174.9	183.9	143.0
1975	88.8	89.0	139.0	156.6	156.1	159.9	143.0
1976	92.5	91.9	143.9	155.6	156.5	160.8	141.6
1977	97.5	98.9	149.2	153.0	150.8	156.5	130.7
1978	99.9	102.8	159.9	160.0	155.6	163.7	126.1
1979	93.4	93.3	152.5	163.2	163.5	169.8	141.4
1980	95.1	95.6	138.7	145.9	145.1	145.9	143.0
1981	98.1	98.2	128.3	130.8	130.6	133.0	121.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.8	107.2	116.8	113.6	109.0	108.1	112.2
1984	108.7	111.4	134.2	123.5	120.5	125.3	103.1
1985	110.1	113.9	137.3	124.7	120.5	123.5	109.2
1986	112.9	116.4	147.7	130.8	126.9	128.2	121.5
1987	117.4	121.3	140.3	119.5	115.7	117.5	109.2
1988	121.7	123.9	141.4	116.2	114.1	116.2	106.1
1989	113.6	118.2	139.6	122.9	118.1	120.9	107.6
1990	118.2	121.2	137.9	116.7	113.8	115.7	106.1
1991 ¹	108.5	110.0	113.3	104.4	103.0	103.9	99.9
Average annual percent change:							
1958-91	2.3	2.3	-2	-2.4	-2.5	-2.7	-1.5
1979-90	2.2	2.4	-9	-3.0	-3.2	-3.4	-2.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 83. Clay construction products (SIC 3251, 3253, 3259): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	66.0	67.8	144.6	219.2	214.0	224.1	175.8
1968	70.7	72.7	155.4	219.8	213.8	224.1	173.3
1969	70.0	72.6	152.6	218.1	210.1	220.1	171.3
1970	74.9	77.2	140.1	187.0	181.4	186.0	164.7
1971	83.5	86.5	149.8	179.3	173.1	176.8	158.0
1972	86.1	88.4	160.8	186.7	181.9	190.8	146.7
1973	87.6	88.7	160.5	183.2	181.0	191.5	140.1
1974	85.9	87.5	156.8	182.6	179.3	186.6	151.3
1975	86.2	86.8	132.9	154.1	153.1	156.2	142.4
1976	91.1	90.2	143.1	157.0	158.7	162.2	144.5
1977	96.7	96.8	146.7	151.7	151.5	156.2	133.4
1978	98.9	100.1	155.7	157.4	155.5	162.9	126.8
1979	88.5	89.0	146.7	165.7	164.9	168.5	151.1
1980	90.9	91.4	135.4	149.0	148.2	148.3	149.0
1981	94.0	93.2	121.6	129.3	130.5	131.5	126.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	97.8	101.5	117.4	120.1	115.7	113.4	124.5
1984	106.9	108.9	137.1	128.2	125.9	130.2	108.9
1985	109.1	112.5	145.8	133.7	129.6	132.5	117.9
1986	110.7	113.6	157.8	142.5	138.9	140.3	133.4
1987	116.0	118.8	150.2	129.5	126.4	128.0	120.0
1988	121.2	122.1	151.5	125.0	124.1	126.4	115.6
1989	112.3	115.7	146.8	130.7	126.9	129.7	115.6
1990	116.5	118.1	145.6	125.0	123.3	125.2	115.6
1991 ¹	103.4	103.2	115.2	111.4	111.6	112.3	108.9
Average annual percent change:							
1958-91	2.2	2.2	-4	-2.5	-2.5	-2.7	-1.6
1979-90	2.5	2.6	-1	-2.5	-2.6	-2.7	-2.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 84. Brick and structural clay tile (SIC 3251): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employ. hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	79.3	81.4	179.1	225.9	220.1	235.3	161.6
1968	84.6	86.7	188.7	223.0	217.7	233.2	157.8
1969	81.7	85.5	183.9	225.0	215.1	229.1	161.6
1970	91.5	93.4	174.1	190.3	186.5	197.0	146.3
1971	101.1	104.8	192.1	190.1	183.3	190.8	153.8
1972	103.2	107.1	206.4	200.0	192.8	206.1	142.5
1973	101.7	104.2	200.2	196.8	192.2	204.9	142.5
1974	104.4	106.8	200.0	191.6	187.3	198.9	142.5
1975	105.0	106.0	165.4	157.5	156.0	162.7	130.9
1976	115.3	112.9	182.6	158.4	161.8	167.4	138.5
1977	112.9	113.4	185.9	164.6	163.9	171.7	134.6
1978	108.5	109.8	189.7	174.8	172.8	183.9	130.8
1979	96.2	96.4	176.5	183.4	183.1	186.7	169.2
1980	95.8	95.5	154.3	161.0	161.5	158.7	173.2
1981	95.1	93.7	127.3	133.9	135.9	136.3	134.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	96.7	100.0	123.2	127.4	123.2	118.1	142.4
1984	105.2	106.8	144.4	137.2	135.2	140.3	115.4
1985	113.2	116.1	167.2	147.7	144.0	148.4	127.0
1986	111.2	114.8	175.6	157.9	152.9	155.5	142.4
1987	117.2	121.1	160.8	137.2	132.8	135.3	123.2
1988	122.7	126.1	158.4	129.1	125.6	126.3	115.4
1989	113.9	118.1	152.1	133.5	128.8	131.3	119.3
1990	104.9	108.5	134.6	128.3	124.0	126.3	115.4
1991 ¹	96.6	98.9	112.2	116.2	113.5	115.2	107.8
Average annual percent change:							
1958-91	1.3	1.3	-1.1	-2.4	-2.4	-2.6	-1.1
1979-90	8	1.1	-2.4	-3.2	-3.5	-3.5	-3.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 85. Ceramic wall and floor tile (SIC 3253): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	54.1	55.1	77.9	144.1	141.3	139.5	150.1
1968	57.4	58.7	83.0	144.7	141.3	137.8	157.7
1969	57.0	57.9	77.9	136.6	134.6	133.0	142.0
1970	56.3	58.5	71.0	126.1	121.3	116.4	142.8
1971	61.5	62.7	66.0	107.4	105.2	105.1	107.2
1972	68.8	70.2	77.6	112.8	110.6	111.6	107.2
1973	71.7	71.7	78.4	109.4	109.4	111.6	100.0
1974	68.6	68.6	84.2	122.7	122.7	121.5	128.5
1975	69.5	69.2	76.5	110.1	110.6	106.7	128.5
1976	69.4	69.5	80.6	116.1	116.0	114.9	121.5
1977	78.1	78.6	81.8	104.7	104.1	103.4	107.2
1978	89.7	92.3	93.5	104.2	101.3	103.4	92.8
1979	87.0	89.1	103.4	118.8	116.0	118.2	107.2
1980	93.5	95.8	111.1	118.8	116.0	118.2	107.2
1981	96.2	98.9	117.3	119.4	118.6	119.7	114.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	98.7	102.9	112.6	114.1	109.4	111.6	100.0
1984	112.9	115.7	131.1	116.1	113.3	116.4	100.0
1985	102.9	106.4	123.5	120.0	116.1	118.1	107.1
1986	110.6	111.8	143.1	129.4	128.0	127.9	128.5
1987	115.7	115.7	146.6	126.7	126.7	126.3	128.5
1988	119.3	115.0	150.4	126.1	130.8	132.8	121.3
1989	113.3	114.9	153.4	135.4	133.5	137.8	114.3
1990	109.2	109.2	142.8	130.8	130.8	132.8	121.3
Average annual percent change:							
1958-90	3.3	3.3	2.4	-9	-9	-9	-8
1979-90	2.1	1.9	3.0	9	1.1	1.1	1.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 86. Clay refractories (SIC 3255): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	74.3	75.5	125.1	168.3	165.7	180.5	125.1
1968	76.9	79.5	128.5	167.1	161.6	171.5	135.0
1969	83.1	86.0	147.0	176.8	171.0	182.4	140.1
1970	82.1	86.9	140.4	171.1	161.6	164.5	155.1
1971	81.3	84.9	129.5	159.3	152.5	152.0	155.1
1972	86.4	90.6	133.3	154.3	147.2	152.0	135.0
1973	93.6	99.5	145.1	155.0	145.9	159.0	110.0
1974	107.3	112.4	181.6	169.2	161.6	175.2	125.1
1975	95.4	96.2	158.0	165.6	164.2	171.5	145.1
1976	97.0	98.3	147.2	151.7	149.8	155.5	135.0
1977	100.0	106.1	157.7	157.7	148.6	157.2	125.1
1978	103.4	112.3	174.1	168.3	155.1	166.2	125.1
1979	110.2	107.9	171.6	155.7	159.1	173.3	120.1
1980	109.6	110.6	149.7	136.6	135.4	137.6	130.0
1981	111.1	115.4	150.2	135.2	130.1	137.6	110.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	121.5	126.6	114.8	94.5	90.7	91.1	90.1
1984	115.3	120.4	125.1	108.5	103.9	108.9	90.1
1985	114.1	118.8	111.0	97.3	93.4	94.6	90.1
1986	123.3	127.6	115.7	93.8	90.7	89.3	95.1
1987	124.2	129.8	109.3	88.0	84.2	83.9	85.0
1988	125.8	130.4	109.8	87.3	84.2	85.7	80.0
1989	120.8	129.4	117.4	97.2	90.7	92.8	85.0
1990	123.0	129.6	110.8	90.1	85.5	85.7	85.0
1991 ¹	130.8	140.1	108.7	83.1	77.6	76.8	80.0
Average annual percent change:							
1958-91	2.7	3.0	.7	-2.0	-2.2	-2.6	-1.1
1979-90	1.0	1.7	-3.9	-4.9	-5.5	-6.2	-3.1

¹ Preliminary.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 87. Concrete products (SIC 3271, 3272): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	86.7	89.8	98.1	113.2	109.3	116.3	91.3
1968	93.5	97.6	106.7	114.1	109.3	116.0	91.8
1969	92.5	98.2	109.7	118.6	111.7	118.3	94.8
1970	90.6	96.2	114.2	128.0	118.7	126.7	98.0
1971	96.7	99.8	121.2	125.3	121.4	128.6	102.9
1972	98.5	101.7	129.2	131.2	127.1	133.4	110.7
1973	101.6	105.1	138.3	136.1	131.6	137.0	117.4
1974	103.1	105.0	124.6	120.9	118.7	124.5	104.2
1975	101.0	101.3	113.0	111.9	111.6	113.6	106.7
1976	104.4	106.7	115.6	110.7	108.3	111.4	101.0
1977	109.9	110.6	124.9	113.6	112.9	116.1	104.5
1978	107.3	107.8	127.1	118.5	117.9	121.5	108.7
1979	101.7	102.9	126.1	124.0	122.6	125.4	115.2
1980	99.3	100.2	113.6	114.4	113.4	113.0	115.2
1981	97.2	98.1	109.5	112.6	111.6	111.0	113.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	107.2	107.7	106.1	99.0	98.5	98.4	98.5
1984	109.3	110.4	114.2	104.5	103.4	102.5	105.5
1985	110.8	112.6	116.1	104.8	103.1	103.5	102.0
1986	116.8	119.5	127.3	109.0	106.5	107.5	103.5
1987	113.8	119.8	149.0	130.9	124.4	123.8	125.9
1988	117.3	122.8	156.6	133.5	127.5	125.7	132.4
1989	121.3	127.5	163.3	134.6	128.1	126.5	132.4
1990	120.5	126.3	156.6	130.0	124.0	121.5	130.7
1991 ¹	128.0	132.1	147.4	115.2	111.6	108.3	120.5
Average annual percent change:							
1947-91	2.8	2.7	3.9	1.1	1.2	.7	3.5
1979-90	1.6	1.9	2.0	.4	1	-.3	1.2

¹ Preliminary.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 88. Ready-mixed concrete (SIC 3273): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	105.2	109.4	99.9	95.0	91.3
1968	108.0	111.7	100.0	92.6	89.5
1969	103.4	110.3	101.3	98.0	91.8
1970	100.5	102.9	96.3	95.8	93.6
1971	107.6	105.8	99.6	92.6	94.1
1972	109.9	112.4	118.1	107.5	105.1
1973	114.3	115.2	122.0	106.7	105.9
1974	110.8	111.7	119.4	107.8	106.9
1975	107.8	106.0	108.1	100.3	102.0
1976	109.2	107.4	107.8	98.7	100.4
1977	110.5	113.6	122.5	110.9	107.8
1978	113.9	116.9	132.6	116.4	113.4
1979	110.4	111.8	134.4	121.7	120.2
1980	102.7	103.7	117.0	113.9	112.8
1981	105.5	106.4	111.9	106.1	105.2
1982	100.0	100.0	100.0	100.0	100.0
1983	103.7	106.0	109.1	105.2	102.9
1984	106.4	111.2	113.8	107.0	102.3
1985	107.7	111.9	114.8	106.6	102.6
1986	110.8	119.8	120.0	108.3	100.2
1987	115.5	123.5	146.8	127.1	118.9
1988	115.8	122.2	145.2	125.4	118.8
1989	116.7	122.6	142.6	122.2	116.3
1990	115.1	121.9	138.8	120.6	113.9
1991 ¹	118.7	123.4	132.2	111.4	107.1
Average annual percent change:					
1968-91	1.0	1.1	2.1	1.1	1.0
1979-90	.4	.8	.3	-1	-5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 89. Steel (SIC 331): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	95.0	99.1	158.7	167.0	160.2	173.3	122.9
1968	98.4	104.7	168.0	170.7	160.5	172.4	126.8
1969	99.1	106.0	172.3	173.9	162.6	174.7	127.2
1970	98.4	100.6	159.3	165.3	158.3	170.0	124.5
1971	101.1	104.7	151.5	149.9	144.7	154.8	116.5
1972	107.0	113.2	162.5	151.9	143.5	153.9	113.3
1973	117.3	126.9	193.5	165.0	152.5	164.8	117.2
1974	117.2	125.6	193.3	165.0	153.9	165.7	119.5
1975	102.5	105.7	146.3	142.7	138.4	145.5	117.4
1976	108.9	114.1	158.2	145.3	138.7	146.4	116.3
1977	109.9	115.7	162.0	147.4	140.0	147.2	119.0
1978	119.2	128.4	181.5	152.3	141.4	150.2	116.1
1979	117.6	125.7	181.0	153.9	144.0	153.7	116.5
1980	113.2	116.3	150.2	132.7	129.2	134.7	113.6
1981	123.2	129.1	165.0	133.9	127.8	133.2	111.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	126.7	133.5	114.8	89.2	86.0	87.2	82.6
1984	144.3	153.5	129.4	89.7	84.3	87.4	75.5
1985	153.3	164.1	125.4	81.8	76.4	78.8	69.5
1986	156.3	169.9	117.2	75.0	69.0	71.1	63.3
1987	167.6	189.4	126.4	76.6	67.8	69.1	64.0
1988	184.8	209.8	147.5	79.8	70.3	73.3	61.6
1989	179.5	201.7	142.2	79.2	70.5	73.3	62.4
1990	184.8	207.6	144.9	78.4	69.6	72.2	62.9
1991 ¹	177.5	195.4	130.8	73.7	66.6	68.2	61.8
Average annual percent change:							
1947-91	2.2	2.4	.3	-1.9	-2.0	-2.4	-6
1979-90	4.2	4.7	-2.0	-5.9	-9.4	-8.6	-5.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy, and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 90. Gray and ductile iron foundries (SIC 3321): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	80.1	89.6	127.0	158.5	141.7	152.4	97.9
1968	85.0	97.6	136.4	160.5	139.8	150.1	96.9
1969	89.4	102.6	151.6	169.6	147.8	159.1	101.6
1970	85.2	93.1	134.9	158.3	144.9	154.5	105.8
1971	91.3	99.8	135.9	148.9	136.2	144.2	103.0
1972	96.2	109.0	155.0	161.1	142.2	150.9	106.3
1973	100.8	114.6	179.3	177.8	156.5	167.2	113.6
1974	104.3	116.1	181.0	173.6	155.9	166.1	114.2
1975	103.6	111.2	157.5	152.1	141.7	149.0	112.7
1976	102.9	113.2	158.2	153.7	139.8	146.4	112.7
1977	106.7	118.1	168.6	158.0	142.7	149.3	115.2
1978	109.0	119.9	183.8	168.7	153.3	160.7	122.5
1979	103.3	112.1	175.1	169.5	156.2	162.2	131.9
1980	96.9	102.5	137.9	142.3	134.6	136.3	127.8
1981	98.9	104.7	138.3	139.8	132.1	134.8	120.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.5	110.7	104.3	99.8	94.2	95.7	89.0
1984	113.1	124.3	125.7	111.1	101.1	103.7	90.6
1985	110.1	121.5	110.7	100.5	91.1	92.7	84.3
1986	113.2	124.2	103.6	91.5	83.4	84.3	79.6
1987	114.7	129.2	109.4	95.4	84.7	86.8	75.9
1988	123.5	141.5	124.7	101.0	88.1	91.1	76.4
1989	118.6	133.4	116.6	98.3	87.4	90.5	74.9
1990	119.0	132.9	111.4	93.6	83.8	86.1	74.4
1991 ¹	110.8	122.2	97.4	87.9	79.7	81.2	73.4
Average annual percent change:							
1954-91	1.6	1.6	.1	-1.4	-1.5	-1.7	-.3
1979-90	1.3	1.6	-4.0	-5.3	-5.5	-5.6	-5.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 91. Steel foundries (SIC 3324, 3325): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	105.1	115.9	149.3	142.1	128.8	140.4	91.3
1968	102.4	111.8	138.6	135.4	124.0	133.5	92.8
1969	104.8	115.8	149.3	142.4	128.9	140.1	93.7
1970	101.8	110.1	125.2	123.0	113.7	122.6	85.1
1971	106.6	113.8	120.1	112.7	105.5	111.2	87.4
1972	113.2	120.2	129.7	114.6	107.9	114.9	85.1
1973	114.5	124.4	140.4	122.6	112.9	121.6	85.9
1974	126.3	135.6	167.7	132.8	123.7	134.4	88.9
1975	120.8	130.4	158.2	131.0	121.3	130.0	92.8
1976	118.9	126.3	147.5	124.1	116.8	123.2	96.0
1977	112.4	121.0	147.2	131.0	121.7	127.6	102.4
1978	110.6	118.4	152.8	138.2	129.1	137.1	103.2
1979	113.1	122.8	175.7	155.4	143.1	154.1	107.1
1980	112.2	118.3	169.7	151.3	143.4	151.7	116.5
1981	103.0	108.2	140.4	136.3	129.7	135.1	112.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.9	104.5	79.0	78.3	75.6	73.9	81.1
1984	111.1	119.7	94.1	84.7	78.6	80.7	71.7
1985	107.4	116.8	89.7	83.5	76.8	77.8	74.0
1986	112.8	119.9	85.5	75.8	71.3	71.2	71.7
1987	108.0	116.4	93.6	86.7	80.4	81.7	76.4
1988	103.5	114.0	96.8	93.5	84.9	88.8	72.4
1989	104.1	113.9	101.3	97.3	88.9	92.6	77.2
1990	103.4	113.2	97.9	94.7	86.5	89.3	78.0
1991 ¹	95.2	103.5	86.4	90.8	83.5	86.6	74.0
Average annual percent change:							
1954-91	.4	.5	0	-.4	-.5	-.7	0
1979-90	-.8	-.7	-5.2	-4.4	-4.5	-4.8	-2.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 92. Steel foundries, not elsewhere classified (SIC 3325): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	113.3	123.5	156.3	138.0	126.6	135.5	96.5
1973	114.1	127.2	169.3	148.4	133.1	142.9	100.0
1974	129.0	141.7	201.6	156.3	142.3	153.8	103.5
1975	121.8	135.4	200.8	164.8	148.3	158.3	114.1
1976	118.1	128.7	194.3	156.0	143.2	150.5	117.6
1977	113.1	124.6	185.1	163.7	148.6	155.5	124.7
1978	111.5	121.9	189.5	169.9	155.4	164.5	124.7
1979	113.6	125.9	210.6	185.4	167.3	180.7	122.3
1980	112.9	120.3	198.2	175.6	164.8	174.5	131.7
1981	101.8	108.3	158.4	155.6	146.2	153.1	122.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.1	106.5	73.3	71.8	68.8	66.9	75.3
1984	117.0	128.8	87.3	74.6	67.8	69.4	62.4
1985	114.5	124.3	76.8	67.1	61.6	62.7	58.8
1986	117.9	126.8	67.7	57.4	53.4	53.9	51.8
1987	116.5	130.8	81.2	68.5	62.1	63.0	58.8
1988	121.1	137.9	92.8	76.6	67.3	70.4	56.4
1989	121.9	136.9	101.3	83.1	74.0	77.1	63.5
1990	119.5	133.7	96.8	81.0	72.4	75.7	61.1
1991 ¹	113.7	126.1	85.5	75.2	67.8	70.4	58.8
Average annual percent change:							
1972-91	.0	1	-3.1	-3.1	-3.2	-3.4	-2.6
1979-90	5	5	-6.8	-7.3	-7.3	-7.6	-6.1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 93. Primary copper (SIC 3331): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	53.7	52.6	80.4	149.7	152.8	155.8	141.2
1968	64.1	63.3	115.0	179.4	181.7	196.6	129.4
1969	64.3	64.1	144.3	224.5	225.2	247.4	147.1
1970	62.1	62.9	149.2	240.4	237.1	255.6	170.4
1971	63.7	62.4	135.5	212.7	217.2	228.4	176.5
1972	67.7	66.7	151.1	223.2	226.6	244.0	164.7
1973	70.5	70.3	157.3	223.2	223.8	239.0	170.4
1974	63.3	62.1	143.2	226.4	230.5	237.2	205.7
1975	64.5	63.5	129.6	200.8	204.0	204.8	200.0
1976	74.1	73.2	137.9	186.1	188.3	191.4	176.5
1977	77.8	75.3	129.9	166.9	172.4	179.5	147.1
1978	77.4	76.4	130.7	168.9	171.0	179.5	141.2
1979	88.2	87.0	136.2	154.4	156.6	166.0	123.5
1980	81.9	76.5	103.6	126.5	135.5	137.2	129.4
1981	96.7	95.5	134.5	139.1	140.9	144.0	129.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.4	107.0	94.4	88.7	86.2	89.8	82.4
1984	123.7	125.6	99.1	80.1	78.9	78.0	82.4
1985	158.2	157.7	95.4	60.3	60.5	57.6	70.6
1986	190.3	184.4	94.6	49.7	51.3	52.5	47.1
1987	214.7	212.7	92.3	43.0	43.4	44.1	41.2
1988	222.8	220.5	104.5	46.9	47.4	47.5	47.1
1989	207.8	222.8	111.4	53.6	50.0	50.9	47.1
1990	185.2	192.6	116.5	62.9	60.5	61.1	58.9
1991 ¹	189.9	197.4	114.3	60.2	57.9	59.3	53.0
Average annual percent change:							
1947-91	3.6	3.4	6	-2.9	-2.7	-2.9	-1.2
1979-90	7.0	7.5	-1.4	-7.8	-8.3	-8.7	-6.5

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 94. Primary aluminum (SIC 3334): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.0	86.7	92.1	108.3	103.8	113.6	76.7
1968	79.6	83.1	90.7	114.0	108.1	118.9	81.7
1969	87.5	92.2	104.6	119.6	113.4	124.3	83.4
1970	89.9	93.0	108.4	120.6	116.5	126.7	86.4
1971	97.9	100.1	105.7	108.0	105.6	113.1	85.0
1972	97.0	98.4	109.6	113.2	111.6	118.4	93.3
1973	96.6	100.0	121.7	126.0	121.7	133.2	90.0
1974	107.7	109.9	132.8	123.3	120.8	132.5	88.4
1975	93.5	95.9	105.8	113.2	110.3	114.2	100.0
1976	98.6	102.1	117.0	118.7	114.6	123.1	91.7
1977	97.1	100.8	125.8	129.5	124.8	135.0	96.7
1978	96.8	102.8	133.2	137.6	129.6	140.9	98.4
1979	96.8	101.3	139.2	143.8	137.4	149.1	105.0
1980	97.1	99.3	142.2	146.4	143.2	152.1	115.4
1981	100.9	103.8	137.2	136.0	132.2	137.9	116.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.5	109.7	102.5	94.5	93.4	97.6	81.7
1984	121.8	127.4	125.2	102.8	98.3	105.3	78.3
1985	121.8	124.3	106.9	87.8	86.0	90.5	73.3
1986	130.3	125.9	92.8	71.2	73.7	77.5	63.3
1987	129.6	135.2	102.1	78.8	75.5	81.7	58.3
1988	132.6	137.2	120.5	90.9	87.8	101.0	57.4
1989	135.8	139.2	123.2	90.7	88.5	103.6	54.6
1990	138.1	141.5	123.7	89.6	87.4	101.5	55.6
1991 ¹	143.6	147.8	125.2	87.2	84.7	103.0	45.5
Average annual percent change:							
1947-91	3.1	2.9	4.7	1.6	1.8	2.0	1.2
1979-90	3.3	3.1	-1.1	-4.2	-4.0	-3.4	-5.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 95. Copper rolling and drawing (SIC 3351): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	73.0	76.8	133.3	182.6	173.8	187.0	134.9
1968	75.8	81.0	139.2	183.7	171.9	184.0	136.7
1969	80.8	88.2	156.5	193.8	177.4	189.9	141.6
1970	72.5	75.7	127.4	175.6	168.2	176.4	143.3
1971	81.0	85.3	135.7	167.6	159.0	167.8	133.4
1972	83.0	90.2	146.9	176.9	162.8	173.6	131.7
1973	87.9	95.9	164.8	187.5	171.9	184.7	134.9
1974	80.4	86.2	140.3	174.4	162.8	171.2	138.3
1975	72.4	73.8	102.4	141.4	138.7	139.4	136.7
1976	81.2	87.1	128.0	157.6	146.9	153.8	126.7
1977	94.4	101.9	137.6	145.8	135.0	140.5	118.3
1978	94.4	101.3	145.4	154.1	143.5	150.4	123.3
1979	92.6	98.3	151.6	163.7	154.3	163.2	128.4
1980	88.7	93.8	125.3	141.3	133.6	137.0	123.3
1981	92.4	96.3	129.5	140.1	134.5	138.2	123.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	114.5	118.4	116.3	101.6	98.2	99.4	95.0
1984	121.1	131.3	132.5	109.4	100.9	104.6	90.0
1985	115.9	121.6	117.5	101.4	96.6	99.4	88.3
1986	124.3	133.7	122.1	96.2	91.3	95.8	78.3
1987	126.0	138.4	134.8	105.3	97.4	102.2	83.3
1988	128.6	139.5	138.8	107.9	99.5	102.9	89.8
1989	121.3	132.1	133.2	109.8	100.8	104.0	91.5
1990	120.7	129.1	126.3	104.6	97.8	100.5	89.8
1991 ¹	120.0	126.1	122.8	102.3	97.4	100.0	89.8
Average annual percent change:							
1958-91	2.8	2.8	.8	-1.7	-1.7	-1.8	-1.4
1979-90	2.4	2.5	-1.6	-4.0	-4.1	-4.3	-3.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Copper Development Association Inc., the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 96. Aluminum rolling and drawing (SIC 3353, 3354, 3355): Indexes of output per hour and related measures, 1967-90
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	60.3	64.1	70.7	117.3	110.3	115.5	94.3
1968	62.9	66.5	78.4	124.6	118.3	123.5	102.4
1969	64.7	69.1	84.5	130.7	122.3	126.9	107.5
1970	66.4	68.0	79.3	119.4	116.6	118.2	111.1
1971	73.0	73.8	85.3	118.9	115.6	118.1	108.2
1972	85.7	90.5	103.2	120.4	114.0	118.9	98.7
1973	94.7	100.7	123.3	130.2	122.4	129.1	101.5
1974	97.2	100.1	117.5	120.9	117.4	123.5	98.7
1975	88.3	87.2	82.7	93.7	94.0	94.8	94.3
1976	102.5	105.7	111.1	108.4	105.1	109.6	91.2
1977	100.8	105.4	118.3	117.4	112.2	118.1	94.3
1978	104.8	108.1	130.7	124.7	120.9	126.9	101.5
1979	101.1	105.5	128.6	127.2	121.9	126.7	105.9
1980	100.8	103.5	121.4	120.4	117.3	119.4	110.4
1981	97.5	100.4	114.1	117.0	113.7	115.2	109.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	110.9	114.0	115.3	104.0	101.1	103.2	94.2
1984	116.6	121.3	124.1	106.4	102.3	105.6	91.9
1985	116.4	122.6	127.6	109.6	104.1	106.5	96.3
1986	125.0	129.8	132.5	106.0	102.1	103.0	98.6
1987	125.7	133.9	138.7	110.3	103.6	104.0	102.2
1988	124.6	135.1	138.1	110.8	102.2	101.8	103.0
1989	121.7	129.9	136.9	112.5	105.4	104.7	107.5
1990	118.7	128.7	131.3	110.6	102.0	102.1	101.5
Average annual percent change:							
1958-90	3.6	3.7	4.3	.7	.6	.5	.9
1979-90	1.5	1.8	.2	-1.3	-1.6	-1.9	-4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 97. Metal cans (SIC 3411): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	63.1	67.7	83.3	132.1	123.1	128.2	97.5
1968	65.9	71.0	92.3	140.1	130.0	135.2	104.9
1969	67.5	71.1	94.6	140.1	133.0	138.1	106.2
1970	66.5	70.6	101.0	151.8	143.1	148.2	117.1
1971	66.4	68.8	96.4	135.2	140.2	144.1	120.8
1972	68.2	71.5	99.9	146.5	139.8	143.8	119.6
1973	68.9	73.0	104.0	151.0	142.4	147.5	117.1
1974	71.5	75.0	105.7	147.8	141.0	143.8	126.8
1975	73.5	76.9	98.4	133.9	128.0	128.0	128.0
1976	79.0	82.1	102.4	129.7	124.7	125.6	120.8
1977	84.4	88.8	108.4	128.4	122.1	123.1	117.1
1978	86.4	89.5	107.7	124.6	120.3	121.1	115.9
1979	87.5	91.7	107.8	123.2	117.6	118.1	114.6
1980	86.6	90.8	96.3	114.6	109.4	108.7	112.2
1981	91.4	94.6	97.2	106.4	102.7	101.2	109.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.9	103.4	97.5	95.7	94.3	94.5	93.9
1984	103.1	106.1	98.9	95.9	93.2	93.7	91.5
1985	105.1	107.9	97.3	92.6	90.2	90.9	86.6
1986	104.8	107.9	92.0	87.8	85.3	85.8	82.9
1987	107.7	113.4	91.2	84.7	80.4	80.1	81.7
1988	115.4	123.6	94.3	81.7	76.3	75.8	78.9
1989	117.0	124.0	93.0	79.5	75.0	75.0	74.8
1990	127.8	134.8	98.0	76.7	72.7	72.7	72.0
1991 ¹	135.5	142.3	99.9	73.7	70.2	70.4	67.9
Average annual percent change:							
1947-91	2.9	3.0	2.2	-.7	-.7	-.8	-.2
1979-90	3.5	3.6	-.9	-4.2	-4.3	-4.3	-4.1

¹ Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Can Manufacturing Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 98. Hand and edge tools, not elsewhere classified (SIC 3423): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	101.2	108.3	96.2	95.1	88.8	96.3	67.9
1968	102.8	109.5	97.6	94.9	89.1	95.9	69.8
1969	104.9	112.0	105.6	100.7	94.3	101.7	73.5
1970	98.1	105.0	98.1	100.0	93.4	100.6	72.6
1971	101.7	108.3	95.4	93.8	88.1	95.0	68.9
1972	109.2	115.0	111.8	102.4	97.2	104.3	77.3
1973	109.6	115.8	121.0	110.4	104.5	111.7	83.9
1974	104.5	110.0	114.4	109.5	104.0	112.1	81.0
1975	101.3	105.7	99.5	98.2	94.1	100.0	77.3
1976	105.3	109.5	111.8	106.2	102.1	108.3	83.9
1977	107.8	112.8	131.3	121.8	116.4	123.8	95.2
1978	108.3	113.7	141.3	130.5	124.3	134.6	95.2
1979	112.1	116.0	146.7	130.9	126.5	133.8	105.6
1980	106.2	106.9	124.9	117.5	116.7	121.0	104.7
1981	102.7	106.7	124.8	121.5	117.0	122.1	102.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	96.4	97.6	96.7	100.3	99.1	99.4	98.1
1984	97.8	101.6	102.6	104.9	101.0	102.3	97.2
1985	98.9	100.4	100.9	102.0	100.5	103.0	93.4
1986	98.7	103.5	103.3	104.7	99.8	101.4	95.3
1987	103.9	110.1	114.2	109.9	103.7	105.0	100.0
1988	105.4	112.0	116.4	110.4	103.9	105.4	100.0
1989	106.0	113.6	115.9	109.3	102.0	102.7	100.0
1990	100.1	106.9	107.4	107.3	100.5	100.3	100.9
Average annual percent change:							
1968-90	.7	.8	1.7	1.0	.9	.7	1.5
1979-90	-1.0	-.7	-2.8	-1.8	-2.1	-2.6	-.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 99. Heating equipment, except electric (SIC 3433): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	83.6	86.5	102.8	123.0	118.8	128.7	100.0
1973	83.1	88.0	108.3	130.4	123.0	134.6	101.1
1974	77.1	80.2	93.8	121.7	116.9	125.8	100.0
1975	78.6	79.3	86.0	109.4	108.4	114.2	97.7
1976	82.5	86.0	79.4	96.2	92.3	97.2	83.1
1977	97.7	100.1	99.3	101.6	99.2	109.4	79.7
1978	99.3	101.9	112.4	113.2	110.3	121.7	88.8
1979	93.6	97.1	115.1	123.0	118.5	128.7	98.8
1980	97.4	99.0	123.3	126.6	124.6	134.0	106.7
1981	92.5	92.6	95.8	103.6	103.5	104.7	101.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	90.9	93.0	92.6	101.9	99.6	101.2	96.6
1984	99.5	102.6	94.7	95.2	92.3	93.6	89.9
1985	98.9	103.6	95.6	96.7	92.3	95.3	86.5
1986	102.0	106.4	91.7	89.9	86.2	88.9	80.9
1987	106.4	111.8	88.1	82.8	78.8	77.8	80.9
1988	119.1	125.7	93.4	78.4	74.3	74.8	73.2
1989	109.0	115.5	85.8	78.7	74.3	73.8	75.4
1990	117.0	121.7	84.1	71.9	69.1	67.2	73.2
Average annual percent change:							
1972-90	1.9	1.9	-1.1	-2.9	-3.0	-3.5	-1.7
1979-90	2.0	2.1	-2.8	-4.8	-4.8	-5.7	-2.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 100. Fabricated structural metal (SIC 3441): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	97.1	98.9	102.8	105.7	103.7	106.1	97.5
1968	100.8	102.0	102.9	102.1	100.9	102.8	95.7
1969	100.3	102.3	103.2	102.9	100.9	102.5	96.9
1970	102.6	105.0	101.4	98.8	98.8	98.2	92.4
1971	106.1	109.0	101.4	93.8	93.0	94.4	89.0
1972	111.3	109.8	110.6	99.4	100.7	101.8	97.5
1973	113.4	112.2	114.1	100.6	101.7	103.2	97.9
1974	107.4	107.3	107.3	99.9	100.0	102.1	94.2
1975	97.9	96.6	96.4	96.5	99.8	101.8	94.7
1976	99.3	98.0	91.5	92.1	93.4	94.4	90.0
1977	100.3	99.3	95.2	94.9	95.9	96.4	94.2
1978	100.9	99.7	96.8	95.9	97.1	98.9	92.2
1979	102.5	101.3	106.7	104.1	105.3	108.0	97.9
1980	102.6	101.8	115.8	112.9	113.8	117.5	103.9
1981	98.9	98.3	109.7	110.9	111.8	115.6	100.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.4	103.2	93.4	90.3	90.5	89.0	94.7
1984	108.3	107.3	95.4	88.1	88.9	89.3	87.8
1985	118.3	115.8	101.3	85.6	87.5	88.7	84.3
1986	118.3	117.9	96.3	81.4	81.7	81.2	82.9
1987	118.8	119.6	93.4	78.6	78.1	76.6	82.2
1988	118.1	119.9	92.7	78.5	77.3	76.8	79.0
1989	112.3	114.5	90.6	80.7	79.1	77.0	84.6
1990	116.3	118.3	94.4	81.2	79.8	78.3	84.0
Average annual percent change:							
1968-90	1.2	1.2	.9	-.3	-.3	-.4	0
1979-90	1.2	1.4	-1.1	-2.2	-2.5	-2.9	-1.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 101. Metal doors, sash, and trim (SIC 3442): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.2	87.1	83.9	98.5	96.3	100.6	85.6
1968	89.2	89.9	84.5	94.7	94.0	98.7	82.5
1969	87.2	88.7	84.8	97.3	95.6	100.2	84.0
1970	85.5	87.5	82.2	96.1	93.9	96.3	87.7
1971	95.3	96.5	91.6	96.1	94.9	98.7	85.6
1972	96.8	98.0	104.4	107.8	106.5	111.4	94.6
1973	95.8	96.7	101.6	106.1	105.1	109.1	94.6
1974	90.9	91.2	91.7	100.9	100.5	105.7	87.2
1975	93.0	91.7	74.4	80.0	81.1	84.2	72.7
1976	96.7	97.6	83.0	85.8	85.0	89.9	72.7
1977	104.0	104.2	103.4	99.4	99.2	105.3	84.0
1978	98.6	98.8	106.4	107.9	107.7	112.7	94.6
1979	96.6	96.7	106.9	110.7	110.5	114.7	100.0
1980	94.2	93.8	99.6	105.7	106.2	110.1	96.2
1981	94.1	95.7	103.5	110.0	108.2	111.4	100.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.8	102.3	108.7	104.7	106.3	109.2	98.9
1984	107.0	107.2	110.7	103.5	103.3	104.9	98.4
1985	110.6	111.7	120.0	108.5	107.4	108.8	103.8
1986	108.3	112.3	124.3	114.8	110.7	111.1	109.7
1987	107.9	111.7	125.9	116.7	112.7	114.7	107.5
1988	110.4	113.6	122.0	110.5	107.4	107.2	108.1
1989	110.2	113.2	122.5	111.2	108.2	108.4	108.1
1990	106.2	108.4	114.6	107.9	105.7	104.7	108.6
Average annual percent change:							
1967-90	1.0	1.0	1.4	.4	.4	.2	1.0
1979-90	.9	1.0	.6	-.2	-.4	-.8	.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 102. Bolts, nuts, rivets, and washers (SIC 3452): Indexes of output per hour and related measures, 1967-90
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	92.2	100.8	122.2	132.5	121.2	125.9	109.4
1968	92.3	100.1	123.6	133.9	123.5	126.2	111.6
1969	93.6	92.2	117.6	140.7	127.6	132.5	115.1
1970	80.1	84.3	100.7	125.7	119.5	123.0	110.8
1971	87.7	91.4	97.3	110.9	106.4	110.4	96.4
1972	95.5	103.6	115.5	120.9	111.5	116.4	94.3
1973	97.2	106.9	130.4	134.1	119.7	126.2	98.6
1974	98.0	107.6	132.0	134.7	122.4	131.4	100.0
1975	92.3	93.8	96.7	104.8	103.1	106.0	95.8
1976	98.6	104.7	110.8	112.4	105.8	109.2	97.1
1977	102.7	110.7	122.8	119.6	110.9	116.1	97.9
1978	105.5	114.6	135.4	126.3	118.1	123.9	103.7
1979	103.6	111.9	142.4	137.4	127.2	133.4	111.6
1980	105.6	111.0	133.6	126.5	120.4	124.2	110.8
1981	109.0	113.9	134.1	123.0	117.7	120.7	110.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	112.8	118.9	113.1	100.3	95.1	94.2	97.1
1984	113.1	123.3	127.9	113.1	103.7	104.8	100.8
1985	116.1	127.3	132.0	111.8	103.7	104.8	100.8
1986	122.3	134.3	132.3	108.2	98.5	98.8	97.9
1987	133.5	147.1	142.2	106.5	96.7	96.8	96.4
1988	129.1	143.2	148.8	115.3	103.9	103.4	105.1
1989	124.0	135.8	144.8	116.8	106.6	106.6	106.5
1990	124.0	134.9	138.8	111.9	102.9	104.3	99.3
Average annual percent change:							
1967-90	1.0	1.2	1.5	.5	.3	.2	.6
1979-90	1.6	1.7	-2	-1.6	-1.9	-2.2	-1.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 103. Metal stampings (SIC 3465, 3466, 3469): Indexes of output per hour and related measures, 1967-90
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	89.5	93.0	106.3	116.8	114.3	120.3	92.3
1968	92.9	99.5	116.9	125.9	117.5	124.1	92.8
1969	91.3	96.5	116.7	127.8	120.9	127.6	96.2
1970	88.0	93.3	100.8	114.5	108.0	111.7	94.0
1971	95.6	99.2	104.6	109.4	105.4	109.4	90.0
1972	99.6	104.1	117.7	118.2	113.1	118.2	93.7
1973	99.0	104.5	129.5	130.8	123.9	130.7	97.6
1974	96.2	100.0	116.9	119.0	116.9	122.1	97.1
1975	94.9	94.5	94.8	99.9	100.3	103.1	89.7
1976	99.1	102.5	115.5	116.5	112.7	117.6	93.7
1977	101.9	106.4	131.2	126.7	123.3	129.2	100.9
1978	103.3	106.1	134.5	130.2	126.8	133.8	100.0
1979	104.1	104.6	130.8	125.4	124.9	131.8	98.8
1980	101.9	99.8	112.1	110.0	112.3	116.5	96.7
1981	103.3	103.0	112.1	108.5	108.8	112.8	94.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.8	111.5	116.6	109.2	104.6	106.4	97.9
1984	112.4	117.6	136.8	121.7	116.1	119.9	102.9
1985	106.5	112.8	133.0	124.9	117.9	121.3	105.7
1986	110.6	116.6	130.6	118.1	112.0	114.8	102.4
1987	117.6	124.4	139.3	118.5	112.0	114.5	103.1
1988	120.4	129.3	143.3	119.0	110.8	113.5	100.9
1989	119.3	124.2	139.0	116.5	111.9	113.5	106.4
1990	115.5	119.9	129.5	112.1	108.0	109.0	104.3
Average annual percent change:							
1967-90	1.0	.8	1.4	.5	.6	.4	1.2
1979-90	.9	1.2	-1	-1.0	-1.3	-1.7	.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 104. Automotive stampings (SIC 3465): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	89.8	96.0	130.8	145.6	135.2	136.3	126.9
1973	88.7	95.8	143.4	161.7	149.7	153.1	133.1
1974	88.6	90.5	121.6	136.9	134.4	111.1	122.5
1975	86.1	87.4	103.7	117.7	118.7	120.8	108.7
1976	90.2	94.6	126.6	142.6	136.0	139.7	118.8
1977	93.8	100.2	146.5	156.5	146.2	151.1	124.4
1978	95.4	99.1	149.6	156.6	151.0	156.4	125.6
1979	96.4	96.7	133.9	136.9	136.4	142.9	118.2
1980	95.0	91.6	102.0	107.4	111.4	112.5	106.8
1981	96.3	96.7	101.5	103.3	105.0	106.3	99.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	114.6	123.3	131.7	114.9	106.6	106.6	96.9
1984	119.7	129.9	161.3	134.6	124.2	127.7	107.5
1985	112.6	123.1	162.2	144.1	131.8	135.0	116.3
1986	114.0	134.8	164.4	144.2	131.7	134.0	120.0
1987	119.1	126.6	170.4	143.1	132.5	134.0	124.4
1988	124.4	126.6	175.5	141.1	129.4	131.9	117.5
1989	124.6	132.3	169.2	135.6	127.9	126.7	123.8
1990	120.0	126.1	154.2	126.5	122.3	122.5	120.6
Average annual percent change:							
1972-90	1.6	1.5	.9	-.7	-.6	-.7	-.3
1979-90	2.0	2.4	1.3	-.7	-1.1	-1.4	.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 105. Metal stampings, not elsewhere classified (SIC 3463): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	112.0	113.9	104.2	93.0	91.5	98.2	71.9
1973	111.7	114.8	116.3	104.1	101.3	110.3	74.6
1974	110.4	112.0	112.8	102.2	100.7	107.5	60.3
1975	102.7	102.2	84.7	82.5	82.9	85.0	76.6
1976	109.7	111.0	101.6	92.6	91.5	96.2	77.4
1977	112.1	113.6	116.8	104.2	102.8	108.5	85.5
1978	112.4	114.2	120.8	107.5	105.8	113.2	83.1
1979	113.7	113.9	129.9	114.2	114.0	123.1	86.2
1980	110.0	109.4	123.9	112.6	113.3	121.1	89.6
1981	109.9	110.7	124.3	113.1	112.3	119.6	90.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.7	101.5	104.0	104.3	102.5	104.0	96.0
1984	106.1	106.9	117.7	110.9	110.1	113.4	100.0
1985	100.1	102.5	109.4	109.3	106.7	109.3	96.8
1986	106.4	106.8	101.9	95.8	95.4	97.0	91.1
1987	117.1	120.1	114.2	97.5	95.1	96.8	89.9
1988	116.9	123.0	118.9	101.7	96.7	96.2	92.4
1989	114.6	116.2	116.8	101.9	100.5	101.5	97.2
1990	111.5	114.0	111.8	100.1	97.9	98.7	95.6
Average annual percent change:							
1972-90	.0	.0	.4	.4	.4	.0	1.6
1979-90	-.2	.0	-1.4	-1.2	-1.4	-2.0	.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 106. Valves and pipe fittings (SIC 3491, 3492, 3494): indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	90.2	95.3	78.8	87.4	82.7	90.0	68.9
1968	91.2	94.6	78.4	86.0	82.9	89.7	69.9
1969	92.8	96.0	81.8	88.1	83.5	90.7	69.9
1970	92.5	97.4	82.4	89.1	84.6	90.0	74.7
1971	97.0	100.5	82.2	84.7	81.8	87.2	71.5
1972	99.4	102.2	83.7	84.2	81.9	87.2	72.0
1973	102.0	106.4	93.5	91.7	87.9	94.1	76.5
1974	93.2	101.3	94.6	101.5	93.4	100.3	80.5
1975	91.2	93.4	83.0	91.0	88.9	92.7	81.7
1976	90.0	92.6	82.6	91.6	89.2	93.7	80.5
1977	98.9	100.8	95.1	96.2	94.3	101.0	82.0
1978	100.1	101.9	100.0	99.9	98.1	105.8	83.9
1979	104.0	106.4	106.3	104.1	101.8	108.6	89.0
1980	101.5	103.7	105.6	104.0	101.8	107.2	92.0
1981	104.1	106.5	109.5	105.2	102.8	107.0	95.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.4	102.7	90.0	87.9	87.6	87.4	88.0
1984	103.9	106.3	98.5	94.8	92.7	94.8	89.0
1985	103.5	105.2	95.4	92.2	90.7	92.1	88.2
1986	103.2	105.3	90.7	87.9	86.1	88.6	85.2
1987	109.8	112.7	96.8	88.2	85.9	87.3	83.2
1988	111.8	117.2	106.1	94.9	90.5	93.7	84.2
1989	111.3	115.1	102.8	92.4	89.3	92.0	84.4
1990	112.1	116.4	104.4	93.1	89.7	92.7	84.2
Average annual percent change:							
1964-90	1.3	1.3	2.2	.8	.8	.4	1.9
1979-90	.7	.8	-.3	-1.0	-1.1	-1.4	-.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 107. Fabricated pipe and fittings (SIC 3498): indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	108.3	112.6	62.6	57.8	55.6	58.3	53.9
1968	111.9	116.7	65.6	58.6	56.2	58.5	50.6
1969	118.1	127.0	64.0	54.2	50.4	52.1	48.1
1970	105.0	109.9	54.4	51.8	49.5	52.1	42.7
1971	108.3	109.3	55.1	50.9	50.4	53.0	43.9
1972	118.3	118.5	63.4	53.6	53.5	55.5	48.3
1973	123.1	123.3	73.1	59.4	59.3	61.9	53.9
1974	124.5	126.6	80.9	65.0	63.9	66.4	57.3
1975	116.1	116.3	73.6	63.4	63.3	65.6	57.3
1976	108.8	108.3	84.4	77.6	77.9	83.2	64.0
1977	111.7	109.4	94.3	84.4	86.2	89.9	76.4
1978	112.4	110.2	101.7	90.5	92.3	97.5	78.6
1979	100.7	100.4	101.0	100.3	100.6	108.8	78.6
1980	100.5	99.3	97.1	96.6	97.8	102.5	85.4
1981	104.3	103.3	101.0	96.8	97.8	103.0	84.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	97.2	97.1	87.0	89.5	89.6	91.2	85.4
1984	109.4	109.1	84.1	76.9	77.1	79.4	70.6
1985	100.7	97.7	75.0	74.5	76.8	77.7	74.2
1986	101.4	99.8	83.8	62.9	63.9	63.4	65.2
1987	83.2	85.1	52.1	62.6	61.2	63.0	56.2
1988	82.7	88.2	57.8	69.0	65.5	68.1	58.5
1989	84.6	87.5	56.5	66.8	64.6	65.5	61.8
1990	88.7	92.8	62.2	70.1	67.0	67.6	65.2
Average annual percent change:							
1968-90	-.2	-.1	1.0	1.2	1.1	1.9	1.1
1979-90	-1.1	-.7	-4.3	-3.2	-3.6	-4.2	-1.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 108. Internal combustion engines, not elsewhere classified (SIC 3519): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	96.0	93.5	74.8	87.0	90.0	90.6	89.6
1968	96.3	95.3	79.9	90.5	93.0	94.5	91.0
1969	92.2	100.6	95.5	103.6	94.9	107.4	71.0
1970	93.4	98.7	86.0	92.1	87.1	97.9	66.6
1971	100.1	104.3	86.4	86.3	82.8	93.1	62.9
1972	107.5	115.6	101.5	94.4	87.8	99.8	65.1
1973	111.3	121.9	116.2	104.4	95.3	108.9	69.1
1974	114.8	126.2	128.2	111.7	101.6	115.7	74.3
1975	105.9	110.1	107.1	101.1	97.3	106.7	79.4
1976	113.4	119.8	120.2	106.0	100.3	111.1	79.4
1977	122.4	130.6	145.7	119.0	111.8	124.7	86.4
1978	126.5	137.6	165.8	129.0	120.5	133.7	95.2
1979	120.0	125.5	159.5	132.9	127.1	141.6	99.0
1980	115.4	122.2	137.3	119.0	112.4	121.1	95.6
1981	114.0	121.6	136.1	119.4	111.9	120.7	95.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.1	107.1	95.0	89.5	88.7	87.4	91.2
1984	122.1	129.2	126.9	103.9	98.2	105.3	94.6
1985	125.9	130.6	118.6	94.2	90.8	95.8	91.3
1986	133.4	139.1	114.5	85.8	82.3	86.7	75.7
1987	134.9	143.8	115.6	85.7	80.4	85.9	69.9
1988	141.9	152.2	128.8	90.8	84.6	92.4	70.2
1989	149.9	156.3	127.4	85.0	81.5	87.9	68.5
1990	143.6	147.5	116.5	81.1	79.0	84.7	68.2
1991 ¹	133.7	137.4	105.5	78.9	76.8	79.6	70.9
Average annual percent change:							
1967-91	1.9	1.6	1.4	-4	-2	-5	7
1979-90	1.6	1.5	-2.8	-4.4	-4.2	-4.6	-3.3

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 109. Farm and garden machinery (SIC 352): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	81.0	84.7	106.1	129.8	124.1	143.2	86.8
1968	80.8	85.3	101.1	125.1	118.5	135.2	86.0
1969	77.9	81.5	94.0	120.7	115.4	129.6	87.8
1970	79.8	82.8	83.0	116.5	112.3	125.6	86.3
1971	86.9	90.4	94.6	108.8	104.6	115.4	83.5
1972	94.9	100.2	110.1	116.0	109.9	126.0	78.7
1973	100.0	105.0	133.6	133.6	127.2	147.4	87.3
1974	103.5	110.3	152.7	147.6	138.5	162.1	92.5
1975	103.0	106.9	142.9	138.8	131.3	148.5	97.7
1976	106.6	110.2	141.3	132.5	129.2	143.4	98.5
1977	105.5	107.8	142.9	135.5	132.5	147.1	104.0
1978	104.3	106.7	134.0	128.5	125.6	140.3	96.4
1979	105.9	109.9	159.4	150.5	145.0	163.1	109.7
1980	98.2	99.7	134.6	137.0	135.0	145.8	113.8
1981	100.2	100.5	126.3	126.0	125.7	133.7	110.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.2	100.7	89.2	89.0	88.6	89.4	87.0
1984	110.3	112.6	97.5	88.4	86.6	92.2	75.8
1985	106.2	108.7	85.4	80.4	78.6	82.5	70.9
1986	107.3	110.8	76.4	71.2	69.1	72.6	62.1
1987	113.8	116.5	83.9	73.7	72.0	77.3	61.6
1988	121.2	125.2	98.5	81.3	78.7	88.8	60.2
1989	128.7	131.8	104.1	80.0	79.0	91.1	57.4
1990	133.8	136.1	110.8	82.0	81.4	95.2	56.8
1991 ¹	143.2	143.2	108.1	76.2	76.2	87.9	55.1
Average annual percent change:							
1967-91	2.3	2.1	1.3	-9	-6	-7	-1.0
1979-90	2.1	2.0	-3.3	-5.3	-5.1	-4.6	-5.8

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 110. Farm machinery and equipment (SIC 3523): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	97.4	103.9	113.3	116.3	109.0	127.1	74.7
1973	103.3	109.6	140.6	136.1	128.3	150.5	85.8
1974	105.0	113.5	156.6	149.4	138.2	164.1	88.9
1975	106.7	114.1	154.4	144.7	135.3	155.7	97.0
1976	110.4	114.7	152.2	137.9	132.7	149.8	99.7
1977	108.1	111.6	152.7	141.3	136.8	152.9	106.0
1978	105.2	109.2	137.7	130.9	126.1	141.7	96.1
1979	106.1	111.6	163.1	153.7	146.1	165.4	109.3
1980	98.5	100.9	140.2	142.3	139.0	152.0	114.2
1981	101.5	102.7	133.7	131.7	130.2	139.6	112.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.4	100.4	85.7	86.2	85.4	84.9	86.4
1984	113.0	116.3	91.3	80.8	78.5	81.9	72.2
1985	106.7	109.7	76.7	71.9	69.9	71.4	67.1
1986	103.5	108.7	64.7	62.5	59.5	60.7	57.1
1987	108.1	112.6	86.9	81.9	58.4	62.2	54.1
1988	119.2	125.6	82.4	69.1	65.6	73.4	52.5
1989	130.5	136.1	92.0	70.5	67.6	77.9	50.8
1990	136.6	140.8	97.4	71.3	69.2	81.5	49.2
1991 ¹	146.9	147.3	95.9	65.3	65.1	76.0	47.2
Average annual percent change:							
1972-91	2.2	1.9	-9	-3.0	-2.7	-2.7	-2.4
1979-90	2.3	2.1	-4.6	-6.7	-6.6	-6.2	-7.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 111. Lawn and garden equipment (SIC 3524): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	83.0	82.2	95.1	114.6	115.7	121.1	103.6
1973	84.1	83.8	101.5	120.7	121.1	132.2	96.3
1974	96.4	94.5	133.6	138.6	141.4	153.2	114.8
1975	84.0	83.6	91.5	108.9	109.5	113.1	101.8
1976	88.2	88.7	92.7	105.1	104.5	110.6	90.8
1977	93.5	90.4	99.0	105.9	106.5	117.9	90.8
1978	101.1	95.6	117.5	116.2	122.9	133.9	98.2
1979	106.3	102.5	142.8	134.4	139.3	151.8	111.1
1980	99.7	96.7	110.2	110.5	114.0	115.4	111.1
1981	94.5	91.5	92.9	98.3	101.5	104.2	96.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.5	101.1	106.8	103.2	105.6	112.2	90.8
1984	101.7	95.2	129.2	127.0	130.2	144.5	98.1
1985	104.4	103.1	129.2	123.8	125.3	138.8	94.4
1986	117.9	112.7	136.0	115.4	120.7	133.1	92.6
1987	127.2	121.4	169.8	133.5	139.9	154.1	107.4
1988	124.1	118.8	176.4	142.1	148.5	166.6	107.4
1989	119.4	113.2	157.0	131.5	138.7	157.2	96.9
1990	121.4	117.2	170.3	140.3	145.3	163.5	103.9
Average annual percent change:							
1972-90	2.1	2.0	3.3	1.1	1.3	1.7	0
1979-90	1.2	1.2	1.6	4	4	7	-6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 112. Construction machinery (SIC 3531): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	92.7	102.4	118.1	127.4	115.3	135.7	80.8
1968	92.4	103.3	123.2	133.4	119.3	139.2	85.3
1969	93.4	105.7	126.6	135.6	119.8	140.5	84.2
1970	93.7	104.5	117.5	125.4	112.4	129.5	83.7
1971	96.3	106.0	111.4	115.7	105.1	120.1	79.8
1972	103.3	116.6	135.3	131.0	116.0	135.1	83.5
1973	105.6	120.6	158.0	149.6	131.0	153.7	92.0
1974	112.6	128.1	175.0	155.4	136.6	160.1	96.3
1975	105.6	118.0	153.6	145.5	130.2	149.5	97.5
1976	108.1	117.4	147.3	136.2	125.5	140.7	99.6
1977	112.3	121.6	163.8	145.8	134.7	153.0	103.3
1978	119.0	131.5	192.7	162.0	146.5	167.5	110.5
1979	112.7	119.0	180.7	160.3	151.8	172.8	115.9
1980	109.6	117.0	160.2	146.2	136.9	149.5	115.5
1981	108.0	115.9	146.5	135.6	126.4	139.0	105.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.5	100.8	80.2	80.6	79.6	79.6	79.6
1984	116.9	125.9	104.6	89.5	83.1	87.6	75.2
1985	119.1	128.1	101.6	85.3	79.3	82.2	74.2
1986	126.3	136.0	103.6	82.0	76.2	79.4	70.7
1987	123.1	136.6	96.0	78.0	70.3	74.6	63.0
1988	132.3	149.6	108.6	82.1	72.6	81.9	59.1
1989	136.3	149.5	110.8	81.3	74.1	82.7	61.2
1990	140.3	152.3	115.3	82.2	75.7	82.8	64.6
Average annual percent change							
1968-90	1.6	1.7	1.4	-2	-3	-3	-1
1979-90	2.0	2.3	-4.0	-5.9	-6.1	-6.5	-5.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 113. Mining machinery and equipment (SIC 3532): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	113.5	118.1	102.3	90.1	86.6	100.0	68.0
1973	119.4	126.2	115.6	96.8	91.6	106.4	70.9
1974	126.7	133.9	137.8	108.8	102.9	122.4	75.8
1975	122.5	129.8	155.1	126.6	119.5	142.0	88.4
1976	104.4	111.6	144.9	138.8	129.8	151.8	99.0
1977	109.8	115.0	146.8	133.7	127.7	142.0	107.8
1978	103.2	105.9	133.5	129.4	126.1	138.5	108.7
1979	105.0	109.0	132.6	126.3	121.6	133.0	105.8
1980	108.2	112.0	135.7	125.4	121.2	130.8	107.8
1981	107.4	112.1	128.6	119.7	114.7	121.7	104.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.4	100.7	69.2	68.9	68.7	65.0	73.8
1984	108.7	111.1	76.3	70.2	68.7	69.2	68.0
1985	112.1	113.5	74.2	66.2	65.4	65.0	66.0
1986	115.1	117.6	70.3	61.1	59.8	53.4	60.2
1987	120.4	127.1	70.3	58.4	55.3	57.3	52.4
1988	122.8	130.0	71.0	57.8	54.6	57.9	50.1
1989	130.2	137.1	76.8	59.0	56.0	59.6	50.8
1990	121.2	127.2	76.7	63.3	60.3	64.6	54.0
1991 ¹	129.3	132.7	75.1	58.1	56.6	57.3	55.6
Average annual percent change							
1972-91	7	6	-1.6	-2.3	-2.2	-2.9	-1.1
1979-90	1.3	1.4	-4.9	-6.1	-6.2	-6.3	-5.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 114. Oil and gas field machinery (SIC 3533): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	87.6	88.4	31.2	35.6	35.3	35.3	35.3
1968	88.6	90.8	33.4	37.7	36.8	37.6	35.1
1969	83.4	85.9	34.7	41.6	40.4	41.5	38.1
1970	87.9	87.7	34.8	39.6	39.7	39.9	39.2
1971	92.0	91.8	33.4	36.3	36.4	35.3	38.6
1972	101.3	103.0	38.0	37.5	36.9	36.1	38.6
1973	107.4	111.7	44.9	41.8	40.2	39.5	41.7
1974	123.3	128.4	58.8	47.7	45.8	46.1	45.2
1975	109.6	113.6	62.6	57.1	55.1	56.6	51.8
1976	102.4	102.7	60.1	58.7	58.5	59.3	57.0
1977	101.6	103.4	63.6	62.6	61.5	61.8	60.8
1978	111.0	115.2	78.9	71.1	68.5	69.7	65.8
1979	107.2	109.3	81.9	76.4	74.9	76.0	72.6
1980	105.7	109.6	93.8	88.7	85.6	86.7	83.6
1981	106.5	112.7	122.1	114.7	108.3	111.4	101.9
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	93.3	90.2	54.6	58.5	60.5	55.5	71.0
1984	89.1	89.3	51.6	57.9	57.8	55.1	63.6
1985	81.5	81.9	47.9	58.8	58.5	54.8	66.0
1986	74.8	72.6	30.0	40.1	41.3	36.4	51.5
1987	71.8	72.7	23.4	32.6	32.2	27.9	41.4
1988	88.8	90.3	32.6	36.7	36.1	32.0	45.0
1989	83.3	83.8	29.5	35.4	35.2	30.4	45.5
1990	82.0	87.0	32.8	40.0	37.7	34.1	45.5
1991 ¹	82.8	88.0	35.1	42.4	39.9	36.9	46.3
Average annual percent change:							
1967-91	-2	.0	.5	.7	.5	.2	1.1
1979-90	-2.4	-2.1	-8.0	-5.7	-6.1	-7.0	-4.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 115. Machine tools (SIC 3541, 3542): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	115.5	128.3	191.9	166.1	149.6	177.1	110.1
1968	111.2	122.1	176.1	158.4	144.2	167.5	111.2
1969	113.7	124.1	176.4	155.2	142.1	162.6	113.0
1970	104.1	111.3	143.4	137.7	128.8	143.4	108.0
1971	99.9	103.3	104.2	104.3	100.9	107.0	91.8
1972	111.2	118.7	116.8	105.0	98.4	108.7	83.7
1973	121.8	133.2	148.9	122.2	111.8	127.6	88.8
1974	124.2	134.9	163.1	131.3	120.9	139.7	93.7
1975	117.0	122.4	139.7	119.4	114.1	127.3	95.4
1976	111.8	115.5	120.2	107.5	104.1	116.4	86.6
1977	113.6	119.6	128.0	112.7	107.0	116.1	93.7
1978	116.6	124.4	143.3	122.9	115.2	128.8	95.3
1979	115.8	123.6	152.6	131.8	123.5	140.1	99.7
1980	112.2	118.1	151.3	134.8	128.1	143.7	106.0
1981	109.6	115.0	145.2	132.5	126.3	139.0	108.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	94.9	94.1	70.5	74.3	74.9	74.1	76.1
1984	107.7	108.4	81.5	75.7	75.2	76.5	73.3
1985	111.8	113.6	88.4	79.1	77.8	79.1	75.8
1986	113.5	117.0	83.1	73.2	71.0	71.1	70.8
1987	125.8	129.9	76.0	60.4	58.5	58.5	58.5
1988	125.6	134.4	82.0	65.3	61.0	61.9	59.5
1989	129.1	139.5	86.6	67.1	62.1	64.0	59.0
1990	127.8	133.2	78.6	61.5	59.0	60.0	57.5
1991 ¹	128.1	130.3	70.6	55.1	54.2	53.5	55.3
Average annual percent change:							
1968-91	1.4	1.4	-.4	-1.8	-1.7	-2.2	-.9
1979-90	.9	.7	-5.9	-6.7	-6.5	-7.4	-4.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 116. Metal cutting machine tools (SIC 3541): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	109.9	122.1	182.6	166.1	149.6	178.3	109.5
1968	107.3	117.1	169.5	157.9	144.7	169.4	109.9
1969	109.4	119.0	168.6	154.1	141.7	162.9	111.9
1970	100.4	106.3	130.0	129.5	122.3	135.0	104.5
1971	95.9	98.4	91.2	95.1	92.7	97.9	85.3
1972	106.4	113.0	101.8	95.7	90.1	98.5	78.3
1973	118.3	128.0	131.6	111.2	102.8	117.3	82.4
1974	122.1	133.0	148.2	121.4	111.4	129.5	86.5
1975	115.3	120.9	130.3	113.0	107.8	120.1	90.3
1976	109.1	112.5	112.2	102.8	99.7	110.7	84.1
1977	112.1	118.8	121.2	108.1	102.0	110.0	91.0
1978	116.2	124.9	137.8	118.6	110.3	124.4	90.5
1979	115.5	124.9	148.0	128.1	118.5	134.8	95.9
1980	112.9	120.7	150.8	133.6	124.9	141.0	102.5
1981	110.9	118.0	150.3	135.5	127.4	141.3	108.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	91.7	91.5	67.5	73.6	73.8	72.3	75.8
1984	106.2	106.5	77.4	72.9	72.7	72.9	72.5
1985	110.5	112.0	82.2	74.4	73.4	73.5	73.4
1986	112.7	116.5	77.1	68.4	66.2	64.9	68.0
1987	126.7	129.2	70.3	55.5	54.4	53.7	55.3
1988	119.3	123.5	69.8	58.5	56.5	56.3	56.6
1989	127.0	133.9	77.1	60.7	57.6	58.5	55.6
1990	129.3	131.2	70.7	54.7	53.9	54.5	52.7
1991 ¹	134.2	136.4	66.7	49.7	48.9	48.0	50.1
Average annual percent change:							
1968-91	1.7	1.7	-2	-1.9	-1.9	-2.4	-9
1979-90	1.0	.4	-6.5	-7.4	-6.9	-7.9	-5.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 117. Metal forming machine tools (SIC 3542): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	132.5	147.4	220.6	166.5	149.7	172.7	112.1
1968	122.2	137.6	196.6	160.9	142.9	160.2	114.8
1969	125.7	139.5	200.3	159.3	143.6	160.2	116.1
1970	115.8	127.1	188.3	162.6	148.2	166.1	118.8
1971	112.5	118.7	148.6	132.1	125.2	132.3	113.4
1972	126.4	135.5	167.3	132.4	123.5	137.1	101.3
1973	134.2	150.0	207.7	154.8	138.5	156.1	109.4
1974	131.5	143.0	212.6	161.7	148.7	167.6	117.5
1975	122.3	127.6	170.2	139.2	133.2	146.3	112.1
1976	119.5	124.7	146.4	122.5	117.4	131.4	94.6
1977	117.7	122.9	149.3	126.9	121.5	133.0	102.8
1978	117.9	124.3	160.6	136.2	129.2	140.4	110.8
1979	116.7	120.8	167.3	143.4	138.5	154.3	112.1
1980	110.0	111.0	153.2	139.3	138.0	150.3	117.6
1981	105.2	105.5	130.0	123.6	123.2	132.2	108.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.4	101.0	79.3	76.7	78.5	79.3	77.1
1984	110.9	113.2	93.5	84.3	82.6	86.8	75.7
1985	114.5	118.0	107.1	93.5	90.8	95.0	83.8
1986	115.2	118.4	100.8	87.5	85.1	88.4	79.7
1987	124.1	131.1	92.8	74.8	70.8	71.9	68.9
1988	143.9	157.6	117.4	81.6	74.5	77.9	68.9
1989	139.5	151.1	114.5	82.1	75.8	79.2	70.0
1990	127.3	135.8	101.7	79.0	74.9	75.9	73.3
1991 ¹	111.7	116.2	82.3	73.7	70.8	69.9	72.2
Average annual percent change:							
1968-91	.4	.4	-1.1	-1.4	-1.5	-1.8	-8
1979-90	.8	1.1	-4.4	-5.2	-5.4	-6.2	-3.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 118. Machine tool accessories (SIC 3545): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	95.6	104.7	111.9	117.1	106.9	117.9	84.5
1968	93.2	100.3	103.4	111.0	103.1	111.6	85.6
1969	100.0	107.9	108.4	108.4	100.5	108.6	84.1
1970	92.0	95.5	87.9	95.5	92.0	98.5	78.9
1971	103.6	105.5	80.7	77.9	76.5	79.6	70.1
1972	112.5	120.0	95.5	84.9	79.6	84.1	70.6
1973	118.7	130.3	121.7	102.5	93.4	101.6	76.8
1974	117.0	126.5	128.4	109.7	101.5	110.6	83.0
1975	113.2	115.0	107.4	94.9	93.4	99.3	81.5
1976	111.0	116.3	107.2	96.6	92.2	97.3	81.9
1977	112.3	119.6	118.2	105.3	98.8	104.8	86.7
1978	116.3	125.7	133.7	115.0	106.4	112.9	93.2
1979	113.3	122.0	140.8	124.3	115.4	123.8	98.4
1980	111.2	117.6	140.5	126.3	119.5	127.0	104.1
1981	114.5	119.6	138.9	121.3	116.1	122.0	104.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	93.1	96.2	81.5	87.5	84.7	85.6	83.0
1984	106.9	114.5	105.8	99.0	92.4	96.5	84.1
1985	103.8	110.0	103.5	99.7	94.1	98.2	85.6
1986	107.0	111.5	101.1	94.5	90.7	93.7	84.5
1987	113.0	119.4	105.7	93.5	88.5	93.2	78.9
1988	112.2	119.9	114.9	102.4	95.8	101.3	84.6
1989	118.3	126.2	125.2	105.8	99.2	104.8	87.7
1990	121.4	128.0	122.2	100.7	95.5	100.0	86.2
Average annual percent change							
1963-90	1.1	1.1	1.9	.7	.7	.6	1.1
1979-90	.6	.4	-1.3	-1.9	-1.7	-1.9	-1.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 119. Pumps and compressors (SIC 3561, 3563, 3594): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	86.0	90.9	71.0	82.6	78.1	88.2	65.0
1968	85.7	90.9	69.2	80.7	76.1	84.6	65.3
1969	90.0	94.9	75.0	83.3	79.0	88.7	66.4
1970	89.5	93.2	75.8	84.7	81.3	89.5	70.7
1971	90.7	93.4	70.3	77.5	75.3	81.0	67.8
1972	95.1	98.7	77.2	81.2	78.2	86.8	67.2
1973	102.1	106.0	89.0	87.2	84.0	94.8	70.1
1974	100.7	103.3	95.2	94.5	92.2	105.9	74.4
1975	95.2	96.9	88.2	92.6	91.0	100.3	79.0
1976	101.0	103.6	92.6	91.7	89.4	97.9	78.3
1977	104.2	106.9	101.3	97.2	94.8	104.4	82.4
1978	107.1	109.1	108.7	101.5	99.6	110.4	85.7
1979	107.2	109.0	116.4	108.6	106.8	119.1	91.0
1980	104.5	106.2	114.7	109.8	108.0	118.4	94.6
1981	106.8	108.1	113.0	105.8	104.5	111.7	95.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	105.2	103.6	83.3	79.2	80.4	78.9	82.3
1984	112.1	112.8	96.0	85.6	85.1	87.0	82.7
1985	113.5	114.1	94.0	82.8	82.4	83.6	80.7
1986	116.3	117.8	89.4	76.9	75.9	74.1	78.1
1987	126.7	129.1	94.4	74.5	73.1	72.4	74.1
1988	133.7	137.5	106.7	79.8	77.6	78.8	76.1
1989	131.2	134.3	101.8	77.6	75.6	76.0	75.6
1990	134.2	136.5	103.9	77.4	76.1	76.5	75.6
Average annual percent change							
1958-90	2.2	2.1	2.9	.7	.6	.4	1.2
1979-90	2.1	2.1	-1.0	3.0	2.0	-3.9	-1.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 120. Pumps and pumping equipment (SIC 3561, 3594): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	97.5	102.0	82.7	84.8	81.1	90.8	68.3
1973	101.2	107.3	93.7	92.6	87.3	98.5	72.4
1974	100.6	103.8	93.9	93.3	90.5	104.4	72.0
1975	96.5	98.8	92.3	95.6	93.4	101.5	82.6
1976	99.7	103.4	94.9	95.2	91.8	99.8	51.2
1977	107.4	110.9	102.1	95.1	92.1	101.7	79.2
1978	109.1	111.2	108.8	99.7	97.8	108.8	83.3
1979	108.8	110.1	114.6	105.3	104.1	116.6	87.3
1980	104.9	106.6	115.5	110.1	108.3	118.8	94.2
1981	109.4	110.9	116.7	106.7	105.2	112.6	95.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.1	105.2	83.6	78.8	79.5	78.5	80.7
1984	114.3	115.3	97.0	84.9	84.1	86.3	81.1
1985	114.8	116.4	94.9	82.7	81.5	83.0	79.4
1986	117.5	120.0	92.5	78.7	77.1	75.9	78.7
1987	129.7	133.1	96.4	74.3	72.4	72.7	72.0
1988	137.6	141.9	109.1	79.3	76.9	77.8	75.7
1989	133.0	136.0	103.6	77.9	76.2	75.9	76.4
1990	135.5	137.8	104.2	76.9	75.7	75.7	75.7
Average annual percent change:							
1972-90	1.8	1.7	1.3	-5	-4	-1.0	.6
1979-90	2.0	2.0	-9	-2.8	-2.9	-3.9	-1.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 121. Ball and roller bearings (SIC 3562): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	104.1	110.3	143.6	137.9	130.2	137.7	109.6
1968	107.9	113.7	142.3	131.9	125.1	130.0	111.3
1969	105.3	111.4	146.1	138.7	131.1	137.1	114.5
1970	102.7	101.8	127.4	124.0	125.1	129.5	112.8
1971	106.3	107.1	116.0	109.1	108.3	110.4	102.4
1972	118.4	125.6	137.8	116.4	109.7	114.4	98.9
1973	123.7	133.9	159.5	128.9	119.1	125.0	102.4
1974	125.5	131.0	162.6	129.6	124.1	131.2	104.1
1975	117.0	118.5	134.1	114.6	112.2	116.0	101.7
1976	118.9	123.5	135.5	114.0	109.7	113.5	99.3
1977	120.2	125.4	143.3	119.2	114.3	117.6	104.8
1978	127.3	131.0	153.4	120.5	117.1	121.9	104.0
1979	127.1	133.3	161.2	126.8	120.9	127.2	103.2
1980	114.6	119.3	143.3	125.0	120.1	126.6	101.6
1981	113.4	117.9	140.4	123.8	119.1	124.2	104.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.6	107.8	96.2	92.9	89.2	89.4	88.8
1984	113.4	121.9	121.4	107.1	99.6	101.2	95.2
1985	110.2	116.7	111.9	101.5	95.9	96.9	92.8
1986	114.5	121.4	108.5	94.8	89.4	89.9	88.0
1987	122.2	130.8	112.1	91.7	85.7	88.8	76.8
1988	124.5	135.2	118.4	95.1	87.6	91.9	75.2
1989	118.1	127.0	113.3	95.9	89.2	93.9	76.0
1990	110.9	117.8	104.6	94.3	88.8	93.0	76.8
1991 ¹	112.5	116.9	98.3	87.4	84.1	88.0	72.8
Average annual percent change:							
1968-91	1.8	1.9	1.7	-1	-2	-3	-1
1979-90	-1.2	-1.1	-3.9	-2.7	-2.8	-2.8	-2.7

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 122. Air and gas compressors (SIC 3563): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	90.2	92.2	66.4	73.6	72.0	78.0	64.9
1973	104.7	103.1	79.5	75.9	77.1	86.6	65.5
1974	100.0	101.9	97.7	96.8	95.9	109.7	79.3
1975	92.8	93.5	80.2	86.4	85.8	97.7	71.7
1976	104.1	104.4	88.0	84.5	84.3	94.2	72.4
1977	97.9	98.9	99.5	101.6	100.6	110.4	69.0
1978	103.3	105.0	108.6	105.1	103.4	114.5	90.4
1979	103.9	106.1	119.8	115.3	112.9	124.8	98.7
1980	103.4	105.4	113.0	109.3	107.2	117.3	95.2
1981	104.7	106.0	109.0	104.1	102.8	109.7	94.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	103.4	100.4	82.7	80.0	82.4	79.8	85.5
1984	107.9	107.4	93.9	87.0	87.4	88.4	86.2
1985	110.5	108.9	91.8	83.1	84.3	84.9	83.4
1986	114.1	113.6	83.3	73.0	73.3	69.9	77.2
1987	120.5	120.5	90.1	74.8	74.8	71.7	78.6
1988	125.8	126.2	101.5	80.7	79.2	80.9	77.2
1989	127.8	130.4	97.9	76.6	75.1	75.7	74.4
1990	131.3	133.6	102.9	78.4	77.0	78.1	75.9
Average annual percent change:							
1972-90	2.1	2.1	2.5	.4	.4	.0	.9
1979-90	2.2	2.1	-1.4	-3.4	-3.4	-4.2	-2.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 123. Refrigeration and heating equipment (SIC 3585): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	77.3	79.4	60.1	77.7	75.7	77.7	71.6
1968	82.3	84.2	68.2	82.9	81.0	83.2	76.1
1969	87.5	90.4	81.8	93.5	90.5	94.7	81.1
1970	88.2	89.0	82.6	93.6	92.8	96.8	84.0
1971	94.5	95.4	85.0	89.9	89.1	93.1	80.8
1972	102.9	107.2	111.0	107.9	103.5	109.5	90.5
1973	102.8	106.4	126.1	122.7	118.5	124.7	104.8
1974	106.7	108.0	118.7	111.2	109.9	114.3	100.0
1975	89.8	89.4	78.1	87.0	87.4	86.8	88.8
1976	94.0	96.7	98.1	104.4	101.4	104.3	95.0
1977	99.8	101.1	112.0	112.2	110.8	113.6	104.5
1978	100.1	103.8	123.7	123.6	119.2	123.3	110.1
1979	101.1	103.1	124.9	123.5	121.2	126.3	109.9
1980	93.7	94.5	104.0	111.0	110.1	110.5	109.3
1981	99.3	100.4	112.7	113.5	112.3	114.9	106.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	100.9	103.2	105.1	104.2	101.8	102.8	99.7
1984	105.5	110.1	124.0	117.5	112.6	117.3	102.5
1985	103.8	106.6	121.1	116.7	113.6	117.4	105.3
1986	101.6	104.8	118.5	116.6	113.1	118.0	101.9
1987	105.5	110.6	127.9	121.2	115.6	121.5	98.5
1988	109.0	114.4	137.9	126.5	120.5	129.4	100.9
1989	111.6	116.0	142.3	127.3	122.7	132.8	100.3
1990	111.7	113.0	126.9	113.6	112.3	119.0	97.6
Average annual percent change:							
1967-90	1.6	1.5	3.3	1.7	1.7	1.9	1.4
1979-90	.9	.8	1	-.8	.7	-.5	-1.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 124. Carburetors, pistons, rings, and valves (SIC 3592): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1972	123.7	129.3	110.7	89.5	85.6	90.0	70.9
1973	131.0	138.4	144.1	110.0	104.1	110.4	83.4
1974	117.6	120.6	123.4	104.9	102.3	107.5	84.8
1975	109.0	107.7	102.1	93.7	94.8	98.4	83.4
1976	116.6	121.1	120.7	103.5	99.7	103.8	86.1
1977	108.6	113.6	117.2	107.9	103.2	108.3	86.1
1978	102.8	106.0	113.1	110.0	106.7	111.7	80.3
1979	102.9	106.9	124.0	120.5	116.0	122.5	94.5
1980	98.2	98.7	102.7	104.6	104.1	106.7	95.9
1981	99.7	100.2	105.7	106.0	105.5	110.0	90.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	108.3	112.6	107.5	99.3	95.5	96.7	91.7
1984	119.9	126.3	135.3	112.8	107.1	110.8	94.4
1985	124.0	128.4	130.1	104.9	101.3	103.7	93.1
1986	126.8	128.9	119.0	98.5	92.3	92.9	90.3
1987	129.3	140.7	97.9	75.7	69.6	72.1	61.1
1988	142.1	157.0	103.3	72.7	65.8	66.9	62.1
1989	154.9	169.1	94.0	60.7	55.6	55.9	54.9
1990	146.9	157.8	83.0	56.5	52.6	54.7	45.6
Average annual percent change:							
1972-90	1.0	1.1	-1.6	-2.5	-2.7	-2.7	-2.4
1979-90	3.3	3.6	-3.6	-6.7	-6.9	-7.1	-6.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 125. Transformers, except electronic (SIC 3612): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	75.8	79.0	87.5	115.4	110.7	110.4	111.7
1968	80.5	83.1	94.1	116.9	113.2	113.9	112.2
1969	88.9	92.4	101.6	114.3	109.9	111.4	106.8
1970	89.4	92.4	106.4	119.0	115.2	118.2	107.5
1971	94.8	95.7	107.7	113.6	112.5	116.3	103.3
1972	98.5	100.3	115.1	116.8	114.7	117.7	107.5
1973	97.2	99.9	127.3	130.9	127.4	132.3	115.8
1974	93.0	94.8	124.4	133.7	131.2	134.8	122.5
1975	89.7	89.4	94.1	104.9	105.3	101.6	114.3
1976	90.4	91.9	94.8	104.9	103.2	99.8	111.7
1977	100.5	103.2	110.1	109.6	106.7	105.4	110.3
1978	103.7	106.9	117.3	113.1	109.7	109.6	110.3
1979	108.8	111.9	123.9	113.9	110.7	111.8	108.2
1980	111.1	113.5	121.7	109.5	107.2	105.4	111.7
1981	107.3	110.4	119.4	111.3	108.2	107.6	109.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	99.6	102.2	98.3	98.7	96.2	94.4	100.7
1984	98.2	103.2	109.6	111.6	106.2	107.9	102.1
1985	99.5	104.8	109.4	109.9	104.4	106.2	100.0
1986	101.3	108.0	108.0	106.6	100.0	104.2	89.7
1987	103.8	109.0	108.3	104.3	99.4	103.1	90.4
1988	106.9	113.1	117.8	110.2	104.2	106.2	99.3
1989	109.0	114.7	116.8	107.2	101.8	102.6	100.0
1990	116.7	123.0	119.6	102.5	97.2	96.9	97.9
1991 ¹	120.7	125.8	116.0	96.1	92.2	91.5	93.9
Average annual percent change:							
1963-91	2.1	2.2	2.6	5	4	5	2
1979-90	6	9	-3	-10	-1.2	1.3	-9

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 126. Switchgear and switchboard apparatus (SIC 3613): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	78.1	82.0	84.3	108.0	102.8	110.8	86.6
1968	78.0	82.0	79.8	102.3	97.3	103.5	84.3
1969	84.9	89.5	90.8	107.0	101.5	108.8	86.2
1970	82.1	86.2	87.3	106.3	101.3	107.0	89.5
1971	88.1	92.1	90.8	103.1	98.6	103.7	88.0
1972	95.1	98.4	102.3	107.8	104.0	110.6	90.3
1973	100.3	104.7	117.0	116.7	111.6	120.0	94.9
1974	95.8	98.5	108.4	113.2	110.1	118.6	92.1
1975	92.1	91.2	88.7	96.3	97.3	99.2	93.0
1976	94.1	93.7	92.0	97.8	98.2	102.3	89.5
1977	98.6	100.1	108.3	109.8	108.2	116.1	91.7
1978	100.6	102.2	116.4	115.7	113.9	121.7	97.3
1979	101.5	103.8	120.2	118.4	115.8	122.2	102.4
1980	101.9	104.5	114.4	112.3	109.5	112.3	103.8
1981	98.2	100.4	107.9	109.9	107.5	110.8	100.5
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.5	105.3	99.4	95.1	94.4	95.1	93.0
1984	105.7	108.0	102.8	97.3	95.2	95.1	95.3
1985	108.6	110.8	97.5	89.8	88.0	89.0	86.0
1986	108.5	110.8	93.3	86.0	81.2	84.5	83.7
1987	112.5	115.5	88.9	79.0	77.0	78.4	78.1
1988	122.5	130.5	93.2	76.1	71.4	69.2	76.6
1989	122.3	128.9	94.2	77.0	73.1	70.7	79.2
1990	124.5	130.1	92.0	73.9	70.7	67.4	78.7
1991 ¹	125.2	132.3	86.9	69.4	65.7	61.3	77.0
Average annual percent change:							
1963-91	2.1	2.1	1.4	-7	-8	-1.2	.2
1979-90	1.9	2.1	-2.4	-4.2	-4.4	-5.3	-2.4

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 127. Motors and generators (SIC 3621): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	85.0	89.3	119.9	141.1	134.2	139.8	119.0
1968	87.1	92.6	120.6	138.4	130.2	135.4	116.1
1969	87.8	93.7	122.0	139.0	130.2	135.6	115.5
1970	85.7	89.4	110.4	128.8	123.5	128.3	110.7
1971	92.6	97.4	108.5	117.2	111.4	115.0	102.2
1972	93.5	98.9	106.3	113.7	107.5	113.4	91.4
1973	98.3	102.8	123.0	125.1	119.4	129.4	93.5
1974	97.8	101.0	120.4	123.1	119.2	127.4	97.3
1975	90.9	93.7	91.4	100.5	97.5	99.3	92.6
1976	93.7	96.2	103.7	110.7	107.8	115.9	86.4
1977	97.7	101.1	116.6	119.3	115.3	121.7	98.2
1978	96.9	99.8	126.1	130.1	126.3	134.4	104.2
1979	97.0	100.6	128.3	132.3	127.3	133.9	108.9
1980	94.4	97.7	109.4	115.9	112.0	114.1	106.0
1981	98.1	100.8	112.1	114.3	111.2	115.2	100.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.1	102.1	97.7	96.6	95.7	98.5	87.9
1984	103.8	107.7	107.9	103.8	100.2	103.6	90.4
1985	105.6	108.2	100.0	94.7	92.4	94.8	85.7
1986	106.7	109.7	98.7	92.5	90.0	91.0	87.0
1987	110.1	113.5	100.7	91.5	88.7	92.6	78.4
1988	114.5	119.9	109.2	95.4	91.1	97.0	75.3
1989	113.9	119.2	107.3	94.2	90.0	96.5	72.3
1990	113.0	117.0	99.1	87.7	84.7	90.0	70.7
1991 ¹	114.3	119.2	96.1	84.1	80.6	84.4	70.4
Average annual percent change:							
1954-91	2.3	2.4	1.0	-1.3	-1.4	-1.3	-1.6
1979-90	1.4	1.4	-2.3	-3.7	-3.6	-3.5	-3.9

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 128. Major household appliances (SIC 3631, 3632, 3633, 3639): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	60.8	63.6	90.4	148.6	142.1	145.6	128.3
1968	64.1	68.2	100.3	156.5	147.0	152.3	127.1
1969	66.3	69.5	100.3	151.3	144.4	148.0	130.1
1970	64.7	68.5	96.6	149.4	141.1	144.4	129.0
1971	73.9	78.2	91.4	123.7	116.9	119.2	108.4
1972	81.0	85.6	106.0	130.9	123.8	127.9	107.8
1973	82.4	86.6	115.3	140.0	133.1	137.9	114.4
1974	82.6	84.6	103.4	125.2	122.2	124.6	112.0
1975	86.4	87.8	95.4	110.4	108.6	109.4	106.1
1976	88.9	91.7	106.1	119.3	115.7	116.4	112.7
1977	92.2	95.7	119.9	130.1	125.3	128.8	112.7
1978	92.6	93.8	124.9	134.9	133.1	137.5	116.2
1979	100.1	103.0	127.9	127.8	124.2	127.6	111.4
1980	97.4	99.1	116.4	119.5	117.4	120.2	107.2
1981	99.1	100.9	116.4	117.4	115.4	119.2	101.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	107.6	113.1	116.8	108.6	103.3	106.0	93.4
1984	112.0	118.1	130.3	116.3	110.3	115.6	90.4
1985	114.8	119.7	124.2	106.2	103.8	107.1	91.6
1986	120.2	126.1	131.6	109.5	104.4	108.9	88.0
1987	123.4	130.6	136.6	110.7	104.6	109.1	86.0
1988	127.1	132.5	139.1	109.4	105.0	110.3	85.7
1989	128.9	138.7	138.3	107.3	99.7	104.6	81.4
1990	126.6	134.0	127.6	100.8	95.2	99.9	77.8
1991 ¹	132.2	142.6	126.6	95.8	88.8	92.3	76.0
Average annual percent change:							
1968-91	4.1	4.1	2.9	-1.1	-1.1	-0.9	-1.9
1979-90	2.2	2.4	.0	-2.1	-2.4	-2.2	-3.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 129. Household cooking equipment (SIC 3631): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	55.4	57.6	49.6	89.5	86.1	94.2	65.7
1968	60.1	63.9	56.9	94.7	89.1	98.2	65.7
1969	62.8	66.0	60.2	95.9	91.2	98.6	71.7
1970	61.0	64.2	58.8	96.4	91.6	99.3	71.7
1971	66.6	70.7	63.9	95.9	90.4	97.6	71.7
1972	71.3	76.2	74.9	105.1	98.3	108.3	73.2
1973	75.4	80.5	85.6	113.6	106.3	117.1	79.1
1974	77.9	78.8	73.8	94.7	93.7	98.3	79.1
1975	86.6	87.0	68.5	76.9	76.7	82.4	68.7
1976	89.4	92.4	90.0	100.7	97.4	101.7	86.6
1977	88.8	91.5	98.1	110.5	107.2	112.4	94.1
1978	89.2	90.1	106.4	119.3	110.1	127.1	95.7
1979	96.6	100.7	123.6	128.0	122.8	127.1	111.9
1980	92.3	98.5	116.7	126.4	110.5	121.2	104.6
1981	93.8	100.3	115.6	123.2	110.2	122.9	95.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	104.0	110.4	123.4	118.6	111.8	115.9	101.6
1984	109.8	116.6	136.3	124.1	116.9	126.5	92.5
1985	109.4	113.7	116.1	100.1	100.1	108.6	85.1
1986	123.5	127.5	119.5	96.8	93.7	99.4	79.1
1987	125.5	131.7	121.7	97.0	92.4	99.4	74.6
1988	126.2	132.4	121.8	95.0	92.0	101.6	67.2
1989	135.4	142.2	120.0	88.6	84.4	93.5	61.2
1990	130.2	137.2	111.3	85.5	81.1	90.0	58.2
1991 ¹	134.6	146.3	106.2	78.0	72.6	81.2	50.7
Average annual percent change:							
1968-91	3.5	3.5	3.3	-1	-2	-1	-6
1979-90	2.8	2.9	-9	-3.6	-3.7	-3.1	-5.8

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 130. Household refrigerators and freezers (SIC 3632): Indexes of output per hour and related measures, 1957-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	58.3	61.5	145.5	249.5	236.6	236.6	227.4
1968	61.1	65.8	160.9	263.4	244.6	247.9	229.9
1969	63.8	68.2	155.6	243.6	228.1	226.8	224.9
1970	61.6	66.5	145.0	234.7	217.9	216.5	215.0
1971	75.1	79.9	115.8	154.1	145.0	146.7	137.4
1972	82.6	88.4	134.6	162.9	152.2	155.4	137.4
1973	82.3	87.9	137.3	166.9	156.2	157.6	149.8
1974	83.3	89.1	130.1	156.1	146.0	145.1	149.8
1975	81.4	84.3	129.2	158.7	153.2	150.1	167.4
1976	80.9	83.8	125.2	154.7	149.4	146.7	162.3
1977	86.1	90.7	144.7	168.1	159.6	162.1	149.9
1978	84.7	87.2	148.6	175.5	170.4	174.5	152.5
1979	96.7	99.5	128.2	132.6	128.9	133.9	107.5
1980	98.7	96.6	117.2	119.8	121.3	125.1	104.8
1981	101.1	97.8	119.3	117.0	120.9	124.4	104.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	109.4	114.9	107.8	98.5	93.8	95.1	87.5
1984	109.2	112.2	120.2	110.1	107.1	110.9	90.0
1985	116.9	120.1	119.5	102.2	99.5	100.0	87.4
1986	113.7	119.6	127.8	112.4	106.7	109.2	95.0
1987	112.4	116.7	136.2	121.2	114.7	117.4	102.5
1988	115.3	121.7	146.7	127.2	120.5	122.3	112.5
1989	120.3	133.1	140.7	124.4	112.5	112.4	112.5
1990	120.9	127.1	133.6	119.7	105.3	104.3	109.9
1991 ¹	126.6	140.3	140.3	109.1	100.0	97.8	109.9
Average annual percent change:							
1958-91	4.6	4.6	2.7	-1.9	-1.9	-1.8	-1.9
1979-90	2.1	2.3	4	-1.6	-1.6	-2.2	.2

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 131. Household laundry equipment (SIC 3633): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	60.5	67.7	111.6	143.2	134.4	132.8	141.9
1968	65.3	70.6	100.5	153.8	142.4	143.2	138.7
1969	65.9	69.0	101.2	153.8	146.6	147.6	141.9
1970	67.1	72.0	96.3	143.5	133.7	132.8	138.7
1971	74.2	81.6	104.2	140.4	127.7	126.7	132.3
1972	78.8	84.8	121.2	153.9	142.9	144.7	135.6
1973	83.9	90.1	130.5	155.5	144.4	147.0	135.6
1974	80.5	81.6	111.7	138.7	136.5	137.3	135.6
1975	88.8	90.5	94.8	106.8	104.0	104.4	106.4
1976	93.7	97.9	105.0	112.1	107.2	106.5	109.7
1977	94.9	99.6	117.0	123.3	117.5	118.5	112.9
1978	97.0	101.1	120.0	123.7	118.7	120.2	112.9
1979	109.6	107.6	131.0	127.7	121.8	124.5	109.6
1980	98.7	99.7	115.9	119.9	116.3	117.0	112.9
1981	98.6	101.1	115.8	117.5	114.5	116.3	106.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.8	112.8	110.1	103.1	97.6	101.5	80.6
1984	112.4	121.2	122.7	109.2	101.2	105.2	83.9
1985	113.2	120.5	125.7	111.0	104.3	107.5	90.3
1986	108.4	130.0	137.1	115.6	105.5	109.7	87.1
1987	122.0	134.5	136.1	111.8	101.2	105.2	83.9
1988	130.0	138.0	138.8	106.8	100.6	105.2	80.7
1989	122.8	134.7	135.5	110.3	100.6	105.9	77.4
1990	126.6	140.3	136.9	105.1	97.6	103.7	71.0
1991 ¹	125.6	138.4	131.6	104.6	95.1	99.2	77.4
Average annual percent change:							
1958-91	3.7	3.7	2.3	-1.4	-1.4	-1.9	-3.0
1979-90	1.9	2.4	4	-1.5	-2.0	-1.6	-3.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 132. Household appliances, not elsewhere classified (SIC 3639): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	71.5	75.3	71.2	99.6	94.5	87.7	121.3
1968	76.6	80.3	76.3	99.6	95.0	90.3	114.2
1969	77.3	79.7	78.1	101.1	96.0	92.1	121.3
1970	74.4	78.6	85.3	114.7	111.4	106.1	132.0
1971	80.5	82.1	85.6	106.3	104.3	98.3	126.6
1972	95.7	97.6	96.4	100.7	98.8	93.8	117.8
1973	90.1	89.5	113.5	126.0	126.8	127.2	124.9
1974	89.2	88.6	101.8	114.1	114.9	115.7	110.8
1975	93.9	94.2	88.3	94.0	93.7	90.3	107.0
1976	96.3	100.2	102.3	104.1	102.1	100.8	107.0
1977	105.6	106.3	119.6	113.4	110.6	112.3	103.5
1978	109.1	106.2	122.9	112.6	115.7	114.8	117.8
1979	108.4	107.7	131.4	121.2	122.0	122.9	117.8
1980	104.7	103.7	114.7	109.8	110.6	110.5	110.8
1981	106.1	106.4	115.6	109.0	108.6	108.9	107.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	110.8	115.0	127.2	114.8	110.6	114.0	96.5
1984	118.8	126.1	143.9	121.1	114.1	119.3	93.0
1985	120.6	126.7	142.8	118.4	112.7	115.9	100.0
1986	125.2	127.7	150.2	120.0	117.6	122.0	100.0
1987	138.9	143.6	162.1	116.7	112.7	114.9	103.6
1988	140.0	143.8	154.0	110.0	107.1	109.7	96.5
1989	136.9	144.4	149.6	109.3	103.6	107.0	89.3
1990	126.7	131.4	131.4	103.7	100.0	103.6	85.8
1991 ¹	137.2	141.9	123.0	94.0	90.9	92.2	85.8
Average annual percent change							
1958-91	3.4	3.4	3.0	-3	-4	1	-1.9
1979-90	1.4	1.8	.0	-1.4	-1.8	-1.5	-2.8

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 133. Electric lamps (SIC 3641): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	80.6	79.6	96.6	119.8	121.4	122.0	116.3
1968	83.3	83.1	106.0	127.2	127.6	126.5	121.7
1969	82.5	81.4	103.2	125.1	126.8	127.0	124.4
1970	81.4	81.6	103.5	127.2	126.9	129.1	116.3
1971	80.6	80.0	103.0	127.9	129.7	129.6	121.7
1972	85.6	86.4	116.5	136.1	134.9	136.5	124.4
1973	83.2	84.0	123.1	148.0	146.6	148.7	129.7
1974	82.9	81.9	113.1	136.4	138.1	138.2	135.2
1975	89.0	88.4	104.1	117.0	117.7	117.1	121.7
1976	94.9	96.8	118.1	124.5	122.0	121.7	124.4
1977	92.1	93.4	117.0	127.0	125.3	125.0	127.1
1978	94.5	96.0	120.6	127.6	124.4	124.3	124.4
1979	97.1	98.7	124.7	128.4	126.4	127.2	118.9
1980	95.2	94.9	114.1	119.9	120.2	120.6	116.3
1981	96.5	99.5	107.5	109.1	108.0	107.6	110.8
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	114.5	119.8	109.1	96.3	91.1	90.5	95.1
1984	120.8	124.7	117.3	97.1	94.1	92.8	102.4
1985	115.9	117.5	108.9	94.8	93.5	91.6	104.9
1986	119.3	120.8	107.5	90.1	89.0	86.6	104.9
1987	131.0	131.9	113.6	86.7	86.1	84.0	100.0
1988	138.4	141.0	121.4	87.7	86.1	84.8	95.1
1989	149.2	150.7	123.1	82.5	81.7	80.0	92.7
1990	156.1	158.9	120.8	77.4	76.0	74.2	87.8
1991 ¹	175.3	181.2	125.0	71.3	69.0	66.6	85.4
Average annual percent change							
1954-91	3.1	3.2	2.6	-5	-6	-7	-1
1979-90	4.4	4.4	-3	-4.5	-4.5	-4.8	-2.7

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 134. Lighting fixtures and equipment (SIC 3645, 3646, 3647, 3648): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee-hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	81.3	83.2	81.2	99.9	97.6	103.3	92.0
1968	83.7	86.0	87.4	104.4	106.6	105.8	96.5
1969	87.9	90.2	98.1	111.6	108.7	114.0	93.7
1970	95.8	98.0	91.4	106.5	103.9	107.3	94.3
1971	91.8	92.6	94.8	103.3	102.4	107.2	89.1
1972	99.6	102.3	110.5	110.9	108.0	113.4	93.7
1973	102.9	104.7	119.6	116.2	114.2	121.5	94.3
1974	99.2	99.7	101.9	102.7	102.2	106.0	92.1
1975	98.0	97.7	95.0	96.7	97.0	98.2	83.6
1976	104.4	104.1	98.7	94.5	94.8	99.0	83.0
1977	109.8	109.9	110.6	100.7	100.6	102.9	94.3
1978	110.2	110.1	116.3	105.5	105.6	109.3	95.4
1979	103.8	104.3	116.9	112.6	112.1	114.8	104.4
1980	102.5	102.5	108.6	106.0	105.9	106.4	104.4
1981	97.3	98.6	104.7	107.6	106.2	106.2	106.6
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	105.8	107.2	111.2	105.1	103.7	106.4	96.6
1984	112.5	114.4	119.6	106.3	104.5	107.9	95.4
1985	118.2	118.8	123.8	104.7	104.2	106.4	98.3
1986	126.0	128.4	134.8	107.0	105.0	104.7	105.5
1987	122.7	126.4	143.3	116.8	113.4	113.0	114.5
1988	119.0	123.5	144.1	121.1	116.7	115.0	121.8
1989	117.4	120.9	142.0	121.0	117.5	116.6	120.0
1990	115.4	118.4	133.1	115.3	112.4	111.0	116.4
1991 ¹	112.8	116.2	121.1	107.4	104.2	102.6	109.0
Average annual percent change							
1967-91	1.7	1.8	2.9	1.2	1.1	0	2.1
1979-90	1.0	1.2	1.2	2	0	-3	1.0

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 135. Household audio and video equipment (SIC 3651): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee-hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	40.6	41.4	99.9	246.1	241.2	271.4	157.6
1968	43.3	44.4	103.3	238.4	232.5	259.2	158.5
1969	41.7	43.1	94.0	225.2	218.1	239.2	159.2
1970	43.1	44.4	82.3	191.0	185.4	193.1	163.9
1971	45.2	46.6	86.5	191.2	185.8	197.9	152.3
1972	53.6	54.9	98.1	182.9	178.7	197.1	128.5
1973	53.7	54.3	103.4	192.7	180.4	211.7	131.5
1974	53.2	52.1	94.3	177.2	181.0	194.3	144.6
1975	55.1	54.9	78.1	141.8	142.2	147.6	126.9
1976	61.5	61.9	91.6	148.9	147.9	151.7	136.1
1977	61.0	61.1	94.2	154.3	154.1	162.4	130.7
1978	69.0	68.5	108.6	157.3	158.5	162.3	147.6
1979	72.3	73.3	103.7	143.4	141.4	144.2	133.1
1980	71.3	73.2	98.2	137.7	134.2	148.4	133.1
1981	81.6	82.3	103.0	126.2	125.1	126.0	123.0
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	121.3	128.3	120.1	99.0	93.6	91.8	98.5
1984	146.6	153.1	150.2	101.1	98.1	101.4	89.2
1985	158.8	163.4	152.3	95.9	93.2	95.2	87.7
1986	179.6	186.5	173.3	96.5	92.9	95.2	86.2
1987	172.9	178.1	113.6	85.7	83.9	88.7	56.2
1988	191.5	197.5	126.2	85.9	83.9	87.2	55.6
1989	212.6	216.1	145.0	68.2	67.1	72.2	55.6
1990	231.9	239.8	154.7	66.7	64.5	67.0	57.3
1991 ¹	236.2	240.3	152.6	64.6	63.5	64.1	59.8
Average annual percent change							
1967-91	7.0	6.9	4.4	2.4	2.1	2.5	1.9
1979-90	11.2	11.4	3.7	4.7	4.9	6.7	7.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 136. Motor vehicles and equipment (SIC 371): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1967	71.4	72.0	94.4	118.2	117.3	123.0	101.3
1968	77.3	81.7	102.7	132.8	125.7	133.7	103.5
1969	75.9	78.1	102.3	134.7	131.0	138.9	109.2
1970	72.7	72.2	83.0	114.2	114.9	118.8	103.9
1971	84.4	85.3	104.2	129.4	122.1	128.7	103.5
1972	87.2	91.8	115.5	132.4	125.0	132.6	106.6
1973	88.4	94.2	132.3	149.6	140.4	148.2	118.8
1974	84.6	84.8	110.8	130.9	130.6	135.1	118.2
1975	90.5	89.7	102.3	113.1	114.0	118.4	101.9
1976	96.8	101.8	129.1	133.4	126.8	134.1	106.5
1977	103.1	111.1	150.6	146.1	135.6	143.4	113.5
1978	102.5	108.9	156.7	152.9	143.9	152.6	119.1
1979	100.8	102.6	145.3	144.2	141.6	149.2	120.7
1980	93.6	93.0	105.0	112.2	112.9	112.2	114.0
1981	96.0	97.0	109.5	114.1	112.9	114.5	108.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	112.7	118.7	128.0	113.6	107.8	110.9	98.9
1984	118.2	126.5	155.9	131.9	123.2	129.7	105.3
1985	123.4	131.7	166.4	134.8	126.3	133.8	106.0
1986	123.1	128.7	160.6	130.5	124.8	130.9	107.6
1987	130.0	134.3	166.4	128.0	123.9	131.6	102.9
1988	133.7	141.8	173.9	130.1	122.6	130.5	100.8
1989	133.3	141.5	173.9	130.5	122.9	129.9	103.9
1990	132.6	137.8	160.1	120.7	116.2	120.7	104.1
1991 ¹	127.0	131.0	147.8	116.4	112.8	117.5	100.0
Average annual percent change							
195-91	2.8	2.9	3.0	1	1	0	3
1971-90	2.5	2.7	9	-1.6	-1.8	-1.9	-1.3

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records, the Motor Vehicle

Manufacturers Association of the U.S., Inc.; the Gouda/Times Mirror Company (Automobile Inservice Service); Ward's Communications, Inc. (Ward's Automotive Yearbook); the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics and company records.

Table 137. Instruments to measure electricity (SIC 3825): Indexes of output per hour and related measures, 1972-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index							
1972	71.0	74.3	45.3	63.8	61.0	70.6	49.3
1973	76.2	79.4	53.2	69.6	67.0	79.5	52.2
1974	77.3	78.6	59.5	77.0	75.7	89.1	59.6
1975	80.4	80.0	54.3	67.5	67.9	77.1	56.9
1976	80.1	81.1	55.2	68.9	68.1	77.1	57.4
1977	84.1	85.4	63.3	75.3	74.1	82.6	64.0
1978	84.8	86.1	73.5	86.7	85.4	93.7	76.0
1979	84.2	87.0	82.0	97.4	95.9	98.9	88.7
1980	90.9	91.9	87.2	106.9	105.6	107.2	104.3
1981	93.9	94.8	100.2	106.7	105.7	107.7	109.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.1	102.2	102.2	100.1	100.0	101.2	98.5
1984	112.2	113.2	120.8	107.7	104.7	108.3	105.0
1985	109.5	110.6	113.8	103.9	102.9	107.7	108.1
1986	102.6	105.9	101.8	99.2	98.1	104.4	102.7
1987	111.5	117.3	111.4	99.9	98.0	109.8	101.2
1988	118.8	122.6	113.3	95.4	92.8	106.1	100.0
1989	121.8	124.6	108.9	89.4	87.8	101.0	95.0
1990	120.4	123.6	106.0	89.7	87.4	101.2	97.3
Average annual percent change							
1972-90	3.0	2.9	4.9	1.9	2.0	4	3.8
1979-90	3.3	3.2	2.5	2	2	2.0	8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 138. Photographic equipment and supplies (SIC 3861): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	59.0	59.0	43.6	73.9	73.9	63.7	64.5
1968	61.1	60.9	46.5	76.1	76.3	64.8	68.1
1969	65.0	65.3	51.7	79.5	79.2	66.9	71.6
1970	62.8	63.1	50.6	80.6	80.2	66.3	74.4
1971	67.2	66.3	53.2	79.2	80.2	64.0	76.5
1972	77.1	76.8	64.2	83.3	83.6	67.7	79.5
1973	83.5	82.9	73.7	86.3	86.9	65.4	82.7
1974	88.9	86.9	80.6	90.7	92.8	69.7	86.1
1975	86.4	83.5	72.2	83.6	86.5	68.6	84.4
1976	92.4	90.8	81.0	87.7	89.2	63.5	84.9
1977	93.1	92.0	85.4	91.7	92.8	66.9	88.8
1978	103.6	102.0	96.1	92.8	94.2	68.4	90.0
1979	111.4	111.2	106.4	95.5	95.7	68.4	93.2
1980	102.4	102.4	98.3	96.0	96.0	67.8	94.3
1981	101.2	101.4	99.3	98.1	97.9	68.6	97.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	110.9	110.7	101.0	91.1	91.2	68.3	93.7
1984	114.0	115.9	102.3	89.7	88.3	66.7	89.8
1985	110.7	112.7	98.7	89.2	87.6	63.3	91.7
1986	119.1	119.8	97.9	82.2	81.7	76.2	86.9
1987	122.5	125.2	96.3	78.6	76.9	68.4	85.0
1988	130.0	132.9	103.9	79.9	78.2	69.4	86.4
1989	139.1	141.3	106.7	76.7	75.5	67.8	82.7
1990	134.1	134.9	95.9	71.5	71.1	63.3	78.5
Average annual percent change:							
1967-90	3.6	3.7	3.5	-1	-2	-1.2	.9
1979-90	1.7	1.8	-9	-2.6	-2.7	-3.9	-1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 139. Railroad transportation, revenue traffic (SIC 4011): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	62.3	66.7	103.6	166.3	155.3	161.0	119.4
1968	65.6	71.2	107.0	163.0	150.3	155.7	118.1
1969	68.2	73.8	108.7	159.4	147.2	152.4	117.0
1970	67.0	72.4	104.6	156.1	144.4	149.2	116.4
1971	69.8	72.3	102.4	146.8	141.7	146.1	114.2
1972	75.9	80.8	108.0	142.3	133.7	137.3	113.0
1973	83.1	87.6	118.3	142.3	135.1	139.0	112.8
1974	80.9	85.9	116.2	143.7	135.2	138.8	113.6
1975	77.3	80.4	100.6	130.1	125.1	127.6	111.0
1976	82.3	86.5	108.5	131.8	125.4	128.1	109.3
1977	86.4	90.8	114.7	132.8	126.1	129.0	110.4
1978	90.2	94.8	117.3	130.1	123.7	126.3	109.2
1979	90.4	95.7	119.2	131.8	124.6	127.1	109.6
1980	92.6	95.6	115.9	125.1	121.0	122.8	110.5
1981	96.1	98.8	113.6	118.2	115.0	116.4	107.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	122.4	123.7	106.4	86.9	86.0	85.8	87.2
1984	131.9	134.5	116.3	88.2	86.5	86.8	85.0
1985	130.7	141.9	115.4	82.6	81.3	81.4	80.9
1986	153.6	154.2	116.6	75.6	75.6	75.6	76.2
1987	178.3	184.0	125.5	70.4	68.2	68.3	67.8
1988	195.3	202.8	132.2	67.7	65.2	65.7	62.5
1989	207.4	210.0	135.0	65.1	64.3	64.8	61.6
1990	218.1	219.5	135.0	61.9	61.5	61.9	59.5
1991 ¹	236.2	237.4	138.9	58.8	58.5	58.7	57.8
Average annual percent change:							
1967-91	5.2	4.5	.4	-4.5	-3.9	-4.1	-2.4
1979-90	8.3	7.8	1.1	-6.6	-6.2	-6.3	-5.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission, the

Association of American Railroads, the Federal Railroad Administration, U.S. Department of Transportation, and the National Railroad Passenger Corporation. Employment and hours based on data from the Interstate Commerce Commission.

Table 140. Railroad transportation, car miles (SIC 4011): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees		
					All employees	Production workers	Nonproduction workers
Index:							
1967	77.3	82.7	126.5	166.3	155.3	161.0	119.4
1968	78.9	85.6	126.6	163.0	150.3	155.7	116.1
1969	80.7	87.4	126.7	159.4	147.2	152.4	117.0
1970	80.8	87.4	126.2	156.1	144.4	149.2	116.4
1971	83.6	88.6	122.7	146.8	141.7	146.1	114.2
1972	89.2	95.0	127.0	142.3	133.7	137.3	113.0
1973	92.0	96.9	130.9	142.3	135.1	139.0	112.8
1974	89.7	95.3	126.9	143.7	135.2	138.8	113.6
1975	89.3	92.9	116.2	130.1	125.1	127.6	111.0
1976	90.9	95.5	119.8	131.6	125.4	128.1	109.3
1977	90.8	95.5	120.6	132.8	126.3	129.0	110.4
1978	93.3	96.1	121.4	130.1	123.7	126.3	109.2
1979	93.4	96.8	123.1	131.8	124.6	127.1	109.8
1980	98.0	101.3	122.6	125.1	121.0	122.8	110.5
1981	97.5	100.3	115.3	118.2	115.0	116.4	107.3
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	117.0	118.3	101.7	86.9	86.0	85.8	87.2
1984	125.1	127.5	110.3	88.2	86.5	86.8	85.0
1985	126.2	128.2	104.2	82.6	81.3	81.4	80.9
1986	134.6	134.9	102.0	75.8	75.6	75.6	76.2
1987	152.1	157.0	107.1	70.4	68.2	68.3	67.8
1988	162.6	168.9	110.1	67.7	65.2	65.7	62.5
1989	168.2	170.3	109.5	65.1	64.3	64.8	61.6
1990	176.7	177.9	109.4	61.9	61.5	61.9	59.5
1991 ¹	182.5	183.4	107.3	58.8	58.5	58.7	57.8
Average annual percent change:							
1947-91	2.9	3.3	-7	-4.5	-3.9	-4.1	-2.4
1979-90	6.0	5.5	-1.1	-6.6	-6.2	-6.3	-5.4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission and the Association of American Railroads. Employment and hours based on data from the Interstate Commerce Commission.

Table 141. Bus carriers, Class 1 (Parts of SIC 411, 413, 414): Indexes of output per hour and related measures, 1967-89
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	116.2	128.8	142.4	122.6	110.6
1968	114.5	127.1	138.8	121.2	109.2
1969	111.2	122.8	134.1	120.6	109.2
1970	108.6	119.8	131.7	121.3	109.9
1971	106.0	114.9	123.7	116.7	107.7
1972	108.0	112.3	118.6	109.8	105.6
1973	107.4	114.4	113.6	105.8	99.3
1974	111.5	119.0	123.2	110.5	103.5
1975	98.2	104.1	111.1	113.1	106.7
1976	94.9	101.0	107.1	112.8	106.0
1977	101.1	106.3	106.4	106.2	100.1
1978	97.9	100.9	101.0	103.2	100.1
1979	99.5	104.9	107.8	106.5	102.8
1980	102.1	100.2	106.3	104.1	106.1
1981	91.8	91.7	97.9	106.6	106.8
1982	100.0	100.0	100.0	100.0	100.0
1983	96.4	98.8	87.7	91.0	88.8
1984	92.0	95.5	83.5	90.8	87.4
1985	88.3	93.7	77.8	88.1	83.0
1986	87.9	95.7	69.2	85.5	72.3
1987	91.9	100.7	69.1	79.0	68.6
1988	99.2	110.0	70.5	73.1	64.1
1989	96.2	106.9	73.5	76.2	68.6
Average annual percent change:					
1954-89	2	1	1.2	0.8	-1.4
1979-89	-3	2	3.8	3.5	-4.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Interstate

Commerce Commission, the American Bus Association, and the Bureau of Labor Statistics.

Table 142. Trucking, except local (SIC 4213)¹: Indexes of output per employee and related measures, 1967-89
(1982 = 100)

Year	Output per employee	Output	Employees
Index:			
1967	72.5	75.2	103.7
1968	77.0	82.9	107.6
1969	78.9	88.4	112.1
1970	77.4	85.1	110.0
1971	82.1	92.4	112.5
1972	87.7	104.4	119.1
1973	89.5	113.0	126.3
1974	86.4	109.8	127.1
1975	82.6	99.4	120.4
1976	92.9	113.4	122.1
1977	92.6	121.8	131.6
1978	106.7	119.5	112.0
1979	108.0	127.0	117.6
1980	99.7	107.6	107.9
1981	107.6	106.2	98.7
1982	100.0	100.0	100.0
1983	121.2	107.5	88.7
1984	125.2	121.4	97.0
1985	120.6	108.9	90.3
1986	124.6	112.3	90.1
1987	128.7	114.9	89.3
1988	135.7	115.9	85.4
1989	140.9	118.2	83.9
Average annual percent change			
1954-89	2.8	3.7	8
1979-89	2.7	-7	-3.3

¹ Class I and II common and contract carriers.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission, Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc., and the American Trucking Associations.

Table 143. Trucking, except local, general freight (SIC 4213 part)¹: Indexes of output per employee and related measures, 1967-89
(1982 = 100)

Year	Output per employee	Output	Employees
Index:			
1967	69.7	88.3	126.6
1968	73.6	96.7	131.3
1969	74.8	101.7	136.0
1970	71.3	93.7	131.5
1971	75.3	99.5	132.1
1972	79.9	109.6	137.2
1973	85.2	121.7	142.9
1974	86.6	119.4	137.8
1975	82.0	103.6	126.3
1976	89.2	118.0	132.3
1977	92.8	126.5	138.5
1978	108.3	127.5	117.7
1979	108.1	131.6	121.7
1980	99.8	108.8	109.0
1981	108.8	109.5	100.6
1982	100.0	100.0	100.0
1983	126.1	108.2	85.8
1984	127.8	120.0	93.9
1985	122.3	108.4	88.6
1986	131.0	119.3	91.1
1987	134.4	114.0	84.8
1988	143.8	117.6	81.8
1989	145.6	116.9	80.3
Average annual percent change			
1954-89	2.9	2.8	-1
1979-89	3.0	-1.2	-4.1

¹ Class I and II common carriers of general freight.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission, Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc., and the American Trucking Associations.

Table 144. Air transportation (SIC 4512, 4513, 4522 part): Indexes of output per employee and related measures, 1967-91
(1982=100)

Year	Output per employee	Output	Employees
Index:			
1967	56.7	45.3	79.9
1968	59.2	52.2	88.2
1969	60.8	57.3	94.3
1970	62.1	58.2	93.7
1971	66.2	59.6	90.0
1972	73.0	65.5	89.7
1973	74.5	69.5	93.3
1974	75.3	69.6	92.4
1975	76.1	69.2	90.9
1976	83.0	76.3	91.9
1977	87.0	82.0	94.3
1978	95.1	93.4	98.2
1979	98.5	102.9	104.5
1980	92.4	99.2	107.4
1981	91.4	96.6	105.7
1982	100.0	100.0	100.0
1983	110.4	108.5	98.3
1984	114.8	118.0	102.8
1985	118.8	126.4	108.1
1986	119.9	139.6	116.4
1987	126.9	154.1	121.4
1988	122.5	161.9	132.2
1989	118.3	167.5	141.6
1990	113.7	174.9	153.8
1991 ¹	115.3	171.2	148.5
Average annual percent change:			
1967-91	5.6	9.7	3.6
1979-90	1.3	4.9	3.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Research and Special Programs Administration, U.S. Department of Transportation.

Table 145. Petroleum pipelines (SIC 4612, 4613): Indexes of output per hour and related measures, 1967-91
(1982=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees	
					All employees	Non-supervisory workers
Index:						
1967	72.7	71.2	62.4	85.8	87.7	106.1
1968	77.0	75.0	65.1	84.5	86.8	104.1
1969	83.2	80.7	67.8	81.5	84.0	98.5
1970	89.2	86.9	71.7	80.4	82.5	95.2
1971	92.4	89.9	73.0	79.0	81.2	91.8
1972	104.1	100.5	78.9	75.8	78.5	89.1
1973	109.7	106.5	84.0	76.6	78.9	89.1
1974	106.6	103.2	83.8	78.6	81.2	91.8
1975	107.1	102.4	84.2	78.6	82.2	90.5
1976	106.8	104.3	86.7	81.2	83.1	89.7
1977	112.1	110.1	95.6	85.3	86.8	92.5
1978	114.0	111.4	102.5	89.9	92.0	96.6
1979	114.0	112.7	106.4	93.3	94.4	97.2
1980	104.4	102.9	102.9	98.6	100.0	103.4
1981	96.4	96.7	98.9	102.6	102.3	104.1
1982	100.0	100.0	100.0	100.0	100.0	100.0
1983	106.5	104.2	98.4	92.4	94.4	95.9
1984	117.9	112.2	100.6	85.3	89.7	91.8
1985	118.5	114.7	100.6	84.9	87.7	91.2
1986	121.0	119.7	102.1	84.4	85.3	90.5
1987	118.7	116.6	103.0	86.8	88.3	93.2
1988	124.3	122.6	106.4	85.6	86.6	87.8
1989	122.4	119.0	103.3	84.4	86.0	89.8
1990	121.6	119.1	103.4	85.0	86.8	92.5
1991 ¹	117.6	114.8	102.4	87.1	89.2	95.9
Average annual percent change:						
1967-91	4.3	4.3	3.4	-9	-9	1.4
1979-90	6	5	-3	-8	-8	-4

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Oil and Gas Journal, Penn Well Publishing

Company, the American Petroleum Institute, the Association of Oil Pipe Lines, and the Interstate Commerce Commission. Employment and hours based on data from the Bureau of Labor Statistics and the Interstate Commerce Commission.

Table 146. Telephone communications (SIC 481): indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	44.1	43.6	32.8	74.3	75.2
1968	46.9	46.8	35.4	75.5	75.7
1969	47.8	48.4	39.3	82.2	81.2
1970	48.3	47.8	42.0	87.0	87.9
1971	51.9	49.7	44.1	85.0	88.7
1972	54.2	53.9	48.0	88.5	89.1
1973	57.7	57.6	52.8	91.5	91.6
1974	60.8	60.9	56.8	93.4	93.3
1975	66.6	65.3	58.9	88.4	90.2
1976	72.5	71.0	63.1	87.0	88.9
1977	77.4	77.6	69.3	89.5	89.3
1978	82.0	82.8	76.8	93.7	92.8
1979	85.9	86.6	84.7	98.6	97.8
1980	91.5	92.4	92.4	101.0	100.0
1981	96.4	97.3	97.7	101.3	100.4
1982	100.0	100.0	100.0	100.0	100.0
1983	112.4	112.7	101.7	90.5	90.2
1984	110.8	112.5	103.5	93.4	92.0
1985	116.1	119.9	106.6	91.8	88.9
1986	125.0	130.1	111.0	88.8	85.3
1987	128.7	133.9	116.6	90.6	87.1
1988	135.5	140.7	122.4	90.3	87.0
1989	141.9	146.1	124.9	88.0	85.5
1990	142.4	146.3	129.0	90.6	88.2
1991 ¹	150.4	153.2	133.9	89.0	87.4
Average annual percent change:					
1951-91	5.7	5.8	6.8	1.0	.9
1979-90	4.7	4.9	3.9	-.8	-.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Communications Commission. Employment and hours based on data from the Bureau of Labor Statistics.

Table 147. Gas and electric utilities (SIC 491, 492, 493): indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees	
					All employees	Nonsupervisory workers
Index:						
1967	79.2	79.1	59.1	74.6	74.7	79.9
1968	84.7	84.7	64.3	75.9	75.9	81.3
1969	90.2	90.2	70.0	77.6	77.6	82.6
1970	93.0	93.0	74.1	79.7	79.7	84.8
1971	98.2	97.9	78.3	79.7	80.0	84.8
1972	101.8	101.7	83.5	82.0	82.1	86.6
1973	103.4	104.1	87.3	84.4	83.9	88.1
1974	101.5	101.4	86.6	85.3	85.4	89.1
1975	105.9	104.8	87.9	83.0	83.9	86.9
1976	109.1	108.2	90.8	83.2	83.9	86.4
1977	111.9	111.1	94.8	84.7	85.3	87.1
1978	110.0	110.6	98.1	89.2	88.7	89.6
1979	109.0	109.7	100.8	92.5	91.9	92.9
1980	107.7	108.3	102.2	94.9	94.4	95.3
1981	105.8	105.5	102.7	97.1	97.3	98.3
1982	100.0	100.0	100.0	100.0	100.0	100.0
1983	98.8	98.6	99.5	100.7	100.9	99.7
1984	102.5	102.5	104.5	102.0	102.0	100.1
1985	101.4	101.6	105.0	103.5	103.3	101.1
1986	100.9	101.2	104.1	103.2	102.9	100.6
1987	104.1	104.0	106.0	101.8	101.9	99.3
1988	104.4	109.5	110.8	101.3	101.2	98.4
1989	111.0	112.5	112.9	101.7	100.4	97.4
1990	110.7	111.2	112.9	102.0	101.5	98.8
1991 ¹	112.6	113.2	114.3	101.5	101.0	98.0
Average annual percent change:						
1947-91	2.9	2.9	5.2	1.2	1.2	.8
1979-90	1	1	1.0	.9	.9	.6

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association; the Rural

Electrification Administration, U.S. Department of Agriculture; the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 148. Electric utilities (SIC 491, 493 part): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	72.9	72.6	49.8	68.3	68.6
1968	78.3	78.1	54.7	69.9	70.0
1969	83.0	83.3	60.0	72.3	72.0
1970	86.1	86.0	64.4	74.8	74.9
1971	91.0	90.6	68.6	75.4	75.7
1972	95.5	95.8	74.4	77.9	77.7
1973	98.8	99.8	80.3	81.3	80.5
1974	97.2	97.3	80.2	82.5	82.4
1975	103.6	102.1	82.9	80.0	81.2
1976	106.8	105.9	86.4	80.9	81.6
1977	111.9	110.9	92.5	82.7	83.4
1978	108.1	109.2	95.8	88.6	87.7
1979	106.6	107.7	98.2	92.1	91.2
1980	105.0	105.9	100.2	95.4	94.6
1981	103.9	103.7	101.1	97.3	97.5
1982	100.0	100.0	100.0	100.0	100.0
1983	101.6	101.4	102.9	101.3	101.5
1984	105.5	105.4	109.1	103.4	103.5
1985	104.5	104.9	111.0	106.2	105.8
1986	107.1	107.4	113.8	106.3	106.0
1987	112.4	111.8	117.9	104.9	105.5
1988	117.9	117.5	123.7	104.9	105.3
1989	121.1	121.9	127.0	104.9	104.2
1990	123.8	123.3	129.7	104.8	105.2
1991 ¹	127.1	126.5	132.3	104.1	104.6
Average annual percent change:					
1968-91	3.7	3.7	5.1	1.4	1.4
1979-90	1.4	1.2	2.6	1.2	1.3

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rural Electrification Administration, U.S.

Department of Agriculture, and the Energy Information Administration, U.S.

Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics.

Table 149. Gas utilities (SIC 492, 493 part): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	99.6	100.0	90.5	90.9	90.5
1968	105.6	105.9	96.2	91.1	90.8
1969	112.7	112.7	103.2	91.6	91.5
1970	114.8	115.4	106.5	92.8	92.3
1971	120.2	119.8	109.7	91.3	91.6
1972	120.9	121.3	112.7	93.2	92.9
1973	117.3	117.5	109.2	93.1	92.9
1974	114.7	114.6	106.8	93.1	93.2
1975	113.9	113.6	103.4	90.8	91.0
1976	116.3	115.6	103.9	89.3	89.9
1977	112.3	112.0	101.4	90.3	90.5
1978	114.0	113.7	104.4	91.6	91.8
1979	116.2	115.8	108.3	93.2	93.5
1980	114.7	114.5	107.7	93.9	94.1
1981	110.3	110.4	107.0	97.0	96.9
1982	100.0	100.0	100.0	100.0	100.0
1983	91.2	91.3	90.7	99.4	99.3
1984	94.0	94.7	92.9	98.8	98.1
1985	92.4	92.5	89.4	96.8	96.6
1986	83.3	83.9	79.5	95.4	94.7
1987	80.9	81.3	75.4	93.2	92.7
1988	85.3	86.0	77.9	91.3	90.6
1989	83.7	85.8	77.6	92.7	90.4
1990	76.6	78.6	72.3	94.4	92.0
1991 ¹	75.6	77.9	71.4	94.5	91.7
Average annual percent change:					
1968-91	8	7	8	2	1
1979-90	-3.7	-3.5	-3.6	1	-1

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 150. Scrap and waste materials (SIC 5093): Indexes of output per hour and related measures, 1977-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1977	97.1	99.1	106.2	111.4	109.2
1978	107.6	110.3	117.8	109.5	106.6
1979	107.6	110.5	130.6	121.4	118.2
1980	105.2	105.7	125.7	119.5	118.9
1981	101.8	104.0	118.7	116.6	114.1
1982	100.0	100.0	100.0	100.0	100.0
1983	120.1	122.3	114.2	95.1	93.4
1984	118.6	120.6	124.1	104.6	102.9
1985	124.3	125.4	127.9	102.9	102.0
1986	130.0	132.9	134.2	103.2	101.0
1987	133.2	136.9	146.2	109.8	106.8
1988	130.9	131.0	158.4	121.8	121.7
1989	120.9	122.8	163.2	135.0	132.9
1990	141.8	143.0	173.8	122.6	121.5
1991 ²	153.9	153.3	185.4	120.5	120.9
Average annual percent change:					
1977-91	3.3	3.2	3.9	6	7
1979-90	2.5	2.4	2.6	1	3

¹ All persons include paid employees and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U. S. Department of the Interior, and the American Paper Institute. Persons and hours based on data from the Bureau of Labor Statistics.

Table 151. Hardware stores (SIC 5251): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	92.3	98.1	87.7	95.0	89.4
1973	90.2	95.2	86.8	96.2	91.2
1974	86.9	91.3	85.7	98.6	93.9
1975	89.6	93.7	89.2	99.6	95.2
1976	87.8	95.0	91.7	104.5	96.5
1977	91.5	95.4	96.5	105.5	101.2
1978	91.7	96.4	100.3	109.4	104.0
1979	105.1	106.6	111.9	106.5	105.0
1980	102.3	102.6	108.5	106.1	105.7
1981	98.4	98.5	102.4	104.1	104.0
1982	100.0	100.0	100.0	100.0	100.0
1983	98.2	98.3	102.1	104.0	103.9
1984	103.3	103.4	114.1	110.5	110.4
1985	102.0	101.1	112.7	110.5	111.5
1986	108.1	106.8	115.6	106.9	108.2
1987	106.2	106.8	115.9	109.1	108.5
1988	115.7	113.3	122.5	105.9	108
1989	122.8	119.6	128.6	104.7	107.5
1990	118.0	115.4	125.1	106.0	106.4
1991 ²	109.0	107.3	117.7	108.0	109.7
Average annual percent change:					
1972-91	9	5	1.6	7	1.1
1979-90	1.1	7	1.0	0	3

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 152. Department stores (SIC 5311): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	68.7	77.1	57.3	83.4	74.3
1968	70.0	77.7	61.3	87.6	78.9
1969	69.1	75.9	63.1	91.3	83.1
1970	69.1	75.3	63.9	92.5	84.9
1971	73.4	79.8	69.7	95.0	87.3
1972	74.3	81.1	75.3	101.3	92.8
1973	77.2	83.8	80.6	104.4	96.2
1974	75.6	81.3	77.6	102.7	95.5
1975	79.8	84.7	78.0	97.7	92.1
1976	84.1	87.9	82.8	98.4	94.2
1977	89.0	91.3	88.7	99.7	97.2
1978	91.7	92.1	94.6	103.2	102.7
1979	92.9	93.6	95.6	102.9	102.1
1980	92.4	92.1	93.8	101.5	101.8
1981	97.9	97.7	99.5	101.6	101.8
1982	100.0	100.0	100.0	100.0	100.0
1983	106.5	106.5	106.2	99.7	99.7
1984	113.0	111.4	116.3	102.9	104.4
1985	115.6	112.5	119.2	103.1	106.0
1986	121.3	116.3	125.4	103.4	107.8
1987	124.0	118.3	129.5	104.4	109.5
1988	123.6	117.5	132.1	106.9	112.4
1989	120.9	115.3	136.4	112.8	118.3
1990	117.9	113.6	136.5	115.8	120.2
1991 ¹	124.2	120.7	138.0	111.1	114.3
Average annual percent change					
1967-91	2.5	1.9	3.7	1.2	1.8
1979-90	2.2	1.8	3.3	1.1	1.5

¹ Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 153. Variety stores (SIC 5331): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	99.3	104.3	134.4	135.4	128.9
1968	104.5	108.2	140.6	134.6	130.0
1969	106.3	109.8	142.7	134.3	130.0
1970	110.7	116.5	150.6	136.1	129.3
1971	103.7	110.5	146.9	141.6	132.9
1972	111.2	116.5	155.7	140.0	131.4
1973	106.7	112.3	153.9	144.2	137.0
1974	105.4	108.4	146.2	138.7	134.9
1975	108.4	113.6	138.7	128.0	122.1
1976	94.3	97.0	118.3	125.4	122.0
1977	88.5	88.5	110.4	124.7	124.7
1978	89.0	87.2	108.8	122.2	124.7
1979	90.6	91.6	111.6	123.2	121.8
1980	95.3	95.4	104.3	109.4	109.3
1981	105.2	103.1	103.8	98.7	100.7
1982	100.0	100.0	100.0	100.0	100.0
1983	105.0	106.4	99.2	94.5	93.2
1984	107.1	107.5	101.6	94.9	94.5
1985	97.6	97.2	96.8	99.2	99.6
1986	80.5	80.3	84.2	104.6	104.8
1987	75.6	75.0	78.2	103.5	104.2
1988	74.1	73.2	75.8	102.3	103.5
1989	87.1	83.4	75.1	86.2	90.1
1990	102.0	98.9	72.6	71.2	73.4
1991 ²	100.7	96.8	68.6	68.1	70.9
Average annual percent change					
1967-91	1	-3	-2.8	-2.8	-2.5
1979-90	1.1	7	-3.8	-4.9	-4.5

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 154. Food stores (SIC 54): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	100.0	114.7	81.2	81.2	70.8
1968	105.5	118.5	85.1	80.7	71.8
1969	106.1	117.3	86.7	81.7	73.9
1970	112.1	123.2	92.0	82.1	74.7
1971	112.7	123.2	93.3	82.8	75.7
1972	111.9	123.2	94.9	84.8	77.0
1973	107.3	117.9	92.4	86.1	78.4
1974	102.7	110.8	90.3	87.9	81.5
1975	103.5	109.8	91.1	88.0	83.0
1976	105.7	113.2	95.2	90.1	84.1
1977	104.7	110.9	95.3	91.0	85.9
1978	100.6	106.1	96.1	95.5	90.6
1979	103.2	106.7	98.8	95.7	92.6
1980	105.2	106.0	101.0	96.0	95.3
1981	101.7	102.2	100.1	98.4	97.9
1982	100.0	100.0	100.0	100.0	100.0
1983	99.7	99.4	101.6	101.9	102.2
1984	99.8	98.9	103.6	103.8	104.8
1985	100.0	97.4	105.8	105.8	108.6
1986	99.4	95.8	107.6	108.3	112.3
1987	97.4	95.0	109.1	112.0	114.9
1988	96.2	93.2	110.4	114.8	118.4
1989	94.0	90.7	110.9	118.0	122.3
1990	93.7	89.9	112.1	119.7	124.7
1991 ²	93.9	89.7	111.5	118.7	124.3
Average annual percent change					
1958-91	.7	-.2	1.7	1.0	1.9
1979-90	-.9	-1.5	1.2	2.1	2.7

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of

Economic Analysis, U.S. Department of Commerce, the Bureau of Labor Statistics, and the Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 155. Grocery stores (SIC 5411): Indexes of output per hour and related measures, 1972-91
(1962 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	107.2	118.4	92.8	86.6	78.4
1973	103.0	113.9	90.4	87.8	79.4
1974	98.9	107.0	88.5	89.5	82.7
1975	100.8	107.5	90.4	89.7	84.1
1976	103.2	111.5	94.8	91.9	85.0
1977	102.3	109.3	94.8	92.7	86.7
1978	99.0	105.2	95.5	96.5	90.8
1979	101.1	105.1	98.1	97.0	93.3
1980	102.3	103.7	99.9	97.7	96.3
1981	100.0	100.6	99.3	99.3	98.7
1982	100.0	100.0	100.0	100.0	100.0
1983	100.6	99.9	102.0	101.4	102.1
1984	101.9	100.6	105.0	103.0	104.4
1985	99.9	97.8	107.9	108.0	110.3
1986	98.2	95.3	109.5	111.5	114.9
1987	94.7	92.6	109.2	115.3	117.9
1988	93.3	90.7	110.7	118.7	122.1
1989	90.6	87.6	111.2	122.7	126.9
1990	89.5	86.1	111.7	124.8	129.7
1991 ²	89.6	85.7	110.5	123.3	129.0
Average annual percent change					
1972-91	-.9	-1.7	.9	1.9	2.7
1979-90	-1.1	-1.8	1.2	2.3	3.0

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 156. Retail bakeries (SIC 546): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	122.3	129.1	103.5	84.6	80.2
1973	121.9	129.6	104.1	85.4	80.3
1974	113.6	126.1	100.9	86.8	80.0
1975	102.8	106.7	84.8	82.5	79.5
1976	111.4	112.4	91.9	82.4	81.7
1977	110.5	112.2	97.2	88.0	86.6
1978	106.5	110.3	99.6	91.0	90.0
1979	106.9	111.7	106.0	97.3	94.9
1980	113.1	115.8	108.6	96.0	93.8
1981	108.0	108.6	102.5	94.9	94.4
1982	100.0	100.0	100.0	100.0	100.0
1983	100.6	98.4	99.5	98.9	101.1
1984	92.4	92.4	98.1	107.3	107.2
1985	84.5	91.2	93.1	110.2	110.5
1986	90.7	94.3	102.2	112.7	114.4
1987	97.0	95.2	117.8	121.4	123.8
1988	99.8	97.8	117.4	117.6	120.0
1989	101.1	98.7	114.6	113.3	116.1
1990	105.6	107.6	127.1	120.4	118.2
1991 ²	120.0	119.8	138.6	115.5	115.7
Average annual percent change:					
1972-91	-1	-4	1.5	1.7	1.9
1979-90	-3	-3	1.7	2.0	2.0

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 157. New and used car dealers (SIC 5511): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	80.8	89.6	88.8	109.9	99.1
1968	85.2	93.4	95.6	112.2	102.4
1969	85.3	92.3	98.2	115.1	106.4
1970	85.9	92.1	96.2	112.0	104.5
1971	91.2	97.5	103.2	113.1	105.9
1972	94.6	100.5	112.2	118.6	111.6
1973	95.6	101.1	116.9	122.0	115.6
1974	92.9	97.2	105.4	113.5	108.4
1975	94.6	98.9	104.0	109.9	105.2
1976	98.3	102.3	113.4	115.4	110.8
1977	99.6	102.4	118.3	118.8	115.5
1978	99.8	101.4	122.5	122.8	120.8
1979	97.3	99.0	119.1	122.4	120.3
1980	99.2	100.0	107.2	108.1	107.2
1981	97.9	98.7	102.6	101.7	101.7
1982	100.0	100.0	100.0	100.0	100.0
1983	109.8	109.6	114.0	103.8	104.1
1984	112.2	111.9	128.0	114.1	114.4
1985	112.2	111.8	137.8	122.8	123.3
1986	114.5	112.7	145.5	127.1	129.1
1987	112.5	110.5	147.3	130.9	133.3
1988	115.5	113.3	156.7	135.7	138.3
1989	116.5	113.6	156.4	134.2	137.7
1990	120.4	118.0	157.3	130.6	133.3
1991 ¹	120.1	117.6	150.1	125.0	127.6
Average annual percent change:					
1968-91	2.0	1.5	2.7	7	1.2
1979-90	2.0	1.6	2.6	6	.9

¹ Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of

Labor Statistics, the National Automobile Dealers Association, and Ward's Communications, Inc. (Ward's Automotive Yearbooks). Employment and hours based on data from the Bureau of Labor Statistics.

Table 158. Auto and home supply stores (SIC 5531): indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	80.5	85.8	62.1	77.1	72.4
1973	84.2	89.5	70.5	83.7	78.8
1974	79.1	83.4	69.2	87.5	83.0
1975	83.7	87.2	74.1	88.5	85.0
1976	84.5	87.8	78.3	92.7	89.2
1977	83.2	87.3	91.0	87.6	93.5
1978	97.0	96.9	94.8	87.7	97.8
1979	96.3	96.1	98.7	102.5	102.7
1980	99.6	99.7	97.9	98.3	98.2
1981	101.8	101.3	100.5	98.7	99.2
1982	100.0	100.0	100.0	100.0	100.0
1983	109.6	107.6	111.4	101.6	103.5
1984	107.6	107.4	120.2	111.5	111.9
1985	112.2	111.5	129.5	115.4	116.1
1986	111.7	110.0	128.4	115.0	116.7
1987	117.8	114.5	134.0	113.8	117.0
1988	123.1	119.4	146.6	119.1	122.6
1989	123.0	117.7	146.0	118.7	124.0
1990	126.4	121.6	152.9	121.0	125.7
1991 ²	127.2	122.5	151.1	118.8	123.3
Average annual percent change					
1972-91	2.4	1.9	4.8	2.3	2.8
1979-90	2.5	2.2	4.1	1.5	1.9

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 159. Gasoline service stations (SIC 5541): indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	56.5	68.8	86.7	153.5	126.0
1968	60.4	72.3	93.9	155.5	129.9
1969	60.9	71.8	96.2	158.0	133.9
1970	66.7	77.8	103.8	155.6	133.4
1971	68.9	80.6	108.1	156.8	134.1
1972	71.8	83.5	114.7	159.7	137.4
1973	77.0	86.2	116.8	151.6	135.5
1974	77.8	85.6	104.3	134.1	121.8
1975	76.3	84.5	107.2	140.5	126.9
1976	84.2	89.8	112.1	133.2	124.9
1977	89.4	93.8	115.1	128.7	122.7
1978	92.1	96.0	116.3	126.3	121.2
1979	95.9	97.5	108.7	113.3	111.5
1980	93.9	95.4	102.7	109.4	107.6
1981	95.3	96.7	101.3	106.3	104.8
1982	100.0	100.0	100.0	100.0	100.0
1983	109.3	108.5	108.2	99.0	99.7
1984	112.9	112.1	114.3	101.2	102.0
1985	121.4	116.1	119.2	98.2	100.9
1986	132.2	128.7	131.7	99.6	102.3
1987	129.6	124.6	130.0	100.3	104.2
1988	130.7	125.1	131.9	100.9	105.4
1989	130.6	123.6	132.2	101.1	107.0
1990	125.2	119.0	129.6	103.5	108.9
1991 ²	124.7	116.5	126.4	101.4	106.7
Average annual percent change					
1968-91	3.2	2.3	2.2	1.0	1.1
1979-90	2.5	1.8	1.6	.8	-.2

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 160. Apparel and accessory stores (SIC 56): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	64.2	72.5	53.5	83.3	73.8
1968	65.9	72.5	55.6	84.4	76.7
1969	65.2	71.6	56.5	86.7	78.9
1970	64.4	70.9	56.4	87.6	79.5
1971	66.1	72.5	59.5	90.0	82.1
1972	71.7	76.7	63.3	88.3	82.5
1973	78.7	84.0	70.5	89.6	83.9
1974	78.1	83.0	69.2	88.6	83.4
1975	80.0	87.5	72.3	87.1	82.6
1976	81.6	86.7	73.6	92.7	88.2
1977	79.1	82.4	76.1	96.2	92.3
1978	87.7	90.4	86.8	99.0	96.0
1979	89.3	91.1	90.6	101.5	99.5
1980	93.2	93.8	93.7	100.5	99.9
1981	98.0	96.3	99.6	101.6	101.3
1982	100.0	100.0	100.0	100.0	100.0
1983	105.3	104.6	106.8	101.4	102.1
1984	112.1	111.1	114.9	102.5	103.4
1985	116.6	114.0	122.1	104.7	107.1
1986	122.7	118.7	132.0	107.6	111.2
1987	114.1	110.3	130.5	114.4	116.3
1988	114.4	110.9	134.6	117.7	121.4
1989	115.6	112.7	141.9	122.7	125.9
1990	114.8	112.3	140.6	122.5	125.2
1991 ²	114.5	111.7	136.2	119.0	121.9
Average annual percent change:					
1967-91	2.4	1.8	4.0	1.5	2.1
1979-90	2.3	1.9	4.1	1.7	2.1

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table

may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 161. Men's and boys' clothing stores (SIC 5611): Indexes of output per hour and related measures, 1967-91
(1962 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	71.5	78.8	78.7	110.0	99.9
1968	72.4	78.9	82.8	114.2	104.9
1969	73.4	79.6	87.1	118.6	109.4
1970	70.0	76.6	86.6	122.1	113.1
1971	74.0	79.0	90.7	122.5	114.9
1972	83.1	86.6	103.4	124.4	119.5
1973	88.7	94.2	106.2	122.0	114.9
1974	93.7	97.9	100.3	119.8	114.1
1975	87.7	92.5	102.9	117.3	111.2
1976	87.7	87.4	102.2	122.4	116.9
1977	95.8	89.2	103.7	120.9	116.3
1978	90.6	93.4	109.4	120.7	117.1
1979	93.1	95.5	111.3	119.5	116.5
1980	91.6	94.1	105.7	115.1	112.3
1981	96.9	100.7	104.5	104.6	103.8
1982	100.0	100.0	100.0	100.0	100.0
1983	102.4	101.7	99.7	97.4	98.0
1984	107.1	105.9	101.0	94.3	95.4
1985	112.3	109.3	101.1	90.0	92.5
1986	115.1	112.2	101.9	88.5	90.8
1987	114.4	111.5	102.6	87.7	92.0
1988	115.4	111.1	102.4	81.7	92.2
1989	113.3	108.8	100.5	80.7	92.4
1990	110.6	105.4	91.3	82.4	88.6
1991 ²	110.4	105.3	84.0	76.1	79.8
Average annual percent change:					
1967-91	1	1.2	1	1.1	0.9
1979-90	1.5	0	1.6	1.1	-2.7

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 162. Women's clothing stores (SIC 5621): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index					
1967	50.3	59.0	46.1	91.7	78.2
1968	51.7	58.7	47.4	91.6	80.7
1969	52.0	58.9	49.0	94.5	83.2
1970	54.0	60.8	50.8	94.1	83.6
1971	58.4	65.3	56.6	96.9	86.7
1972	60.9	66.9	58.9	96.7	88.0
1973	66.3	72.2	65.0	98.0	90.0
1974	67.8	73.1	65.2	96.1	89.2
1975	75.0	80.4	71.6	95.5	89.0
1976	73.7	79.5	75.8	102.8	95.4
1977	70.5	74.8	74.2	105.2	99.7
1978	78.8	82.0	84.7	107.5	103.3
1979	81.8	83.7	88.6	108.3	105.8
1980	83.1	83.8	88.7	106.8	105.8
1981	89.9	90.6	95.0	105.7	104.9
1982	100.0	100.0	100.0	100.0	100.0
1983	105.6	106.4	108.5	102.7	102.0
1984	109.5	110.1	115.7	105.7	105.1
1985	111.5	110.5	122.6	110.0	111.0
1986	119.7	116.1	134.1	112.0	115.5
1987	111.4	108.3	126.5	115.3	118.6
1988	109.2	105.4	128.8	117.9	122.2
1989	111.6	106.9	135.7	121.6	126.9
1990	114.1	107.7	132.8	116.4	123.3
1991 ²	115.9	110.2	129.3	111.6	117.3
Average annual percent change					
1967-91	3.5	2.6	4.4	8	1.7
1979-90	3.1	2.3	3.7	7	1.4

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service. U.S. Department of the Treasury.

Table 163. Family clothing stores (SIC 5651): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index					
1967	53.5	60.8	40.1	75.0	65.9
1968	55.3	62.2	41.3	74.7	66.4
1969	53.4	60.9	42.0	76.7	69.0
1970	53.4	61.5	42.0	78.6	68.3
1971	60.6	67.5	47.1	77.7	68.8
1972	67.1	72.0	50.4	75.1	70.0
1973	77.6	81.8	58.3	75.1	71.3
1974	76.4	80.2	58.8	77.0	73.3
1975	77.9	81.6	60.8	78.0	74.5
1976	76.3	79.4	63.7	81.5	80.2
1977	71.0	74.5	68.	86.0	81.6
1978	71.5	74.6	71.6	100.1	86.0
1979	77.0	77.7	76.5	93.4	88.4
1980	88.0	86.2	84.7	96.3	96.7
1981	94.2	93.1	92.2	97.9	99.0
1982	100.0	100.0	100.0	100.0	100.0
1983	108.1	106.4	110.5	102.7	103.9
1984	107.9	106.1	117.2	108.6	110.5
1985	104.7	101.5	122.1	116.6	120.3
1986	104.9	100.8	131.5	125.4	130.4
1987	101.3	97.1	140.1	138.0	144.3
1988	102.4	97.7	148.2	144.7	151.7
1989	104.3	99.8	158.7	151.4	158.3
1990	112.7	99.6	161.3	157.1	161.9
1991 ²	103.6	100.8	165.4	159.6	164.1
Average annual percent change					
1967-91	2.8	2.1	6.1	1.2	3.9
1979-90	2.7	2.3	7.0	4.2	4.6

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service. U.S. Department of the Treasury.

Table 164. Shoe stores (SIC 5661): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	86.4	95.7	65.0	75.2	67.9
1968	89.0	96.1	69.5	78.1	72.3
1969	94.7	99.7	73.8	77.9	74.0
1970	86.5	93.2	68.3	79.0	73.3
1971	78.8	85.5	67.2	85.3	78.6
1972	85.9	90.3	70.6	82.2	78.2
1973	91.2	97.0	77.0	84.4	79.4
1974	80.2	85.8	70.1	87.4	81.7
1975	86.4	90.1	71.3	82.5	79.1
1976	88.4	92.5	74.7	84.5	80.8
1977	90.7	94.7	80.1	88.3	84.6
1978	99.6	102.8	90.4	90.8	87.9
1979	102.5	104.6	98.3	95.9	93.7
1980	100.3	102.0	99.9	99.6	97.9
1981	103.8	105.2	106.7	102.8	101.4
1982	100.0	100.0	100.0	100.0	100.0
1983	98.7	99.0	104.1	105.5	105.1
1984	101.9	101.2	105.9	103.9	104.6
1985	109.9	108.1	111.0	101.0	102.7
1986	118.7	116.5	119.2	100.4	102.3
1987	112.3	111.0	121.1	107.8	109.1
1988	114.7	114.0	122.2	106.5	107.2
1989	119.3	120.4	131.1	109.9	108.9
1990	117.7	123.6	133.1	113.1	107.7
1991 ²	117.0	122.6	126.4	108.0	103.1
Average annual percent change:					
1967-91	1.3	1.0	2.8	1.5	1.8
1979-90	1.3	1.5	2.8	1.5	1.3

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 165. Home furniture, furnishings, and equipment stores (SIC 57): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	64.4	72.0	54.4	84.5	75.6
1968	72.8	78.6	59.8	82.1	76.1
1969	70.1	75.8	61.4	87.6	81.0
1970	73.5	78.6	63.4	86.2	80.7
1971	73.3	79.1	66.0	90.0	83.4
1972	81.7	87.2	76.4	93.5	87.6
1973	87.1	91.4	87.7	94.9	90.5
1974	84.6	89.1	82.6	97.6	92.7
1975	84.2	89.0	80.1	95.1	90.0
1976	87.2	91.6	86.2	98.9	94.1
1977	91.5	94.8	92.3	100.9	97.4
1978	91.9	95.9	98.2	106.9	102.4
1979	98.4	101.8	106.8	108.5	104.9
1980	98.4	100.4	104.4	106.1	104.0
1981	103.1	104.3	104.2	101.1	99.9
1982	100.0	100.0	100.0	100.0	100.0
1983	108.8	110.5	115.3	106.0	104.3
1984	117.9	118.0	129.2	109.6	109.5
1985	120.7	120.4	143.5	118.9	119.2
1986	129.3	127.1	159.4	123.3	125.4
1987	130.1	127.6	162.9	125.2	127.7
1988	136.3	136.3	176.1	129.2	129.2
1989	138.4	137.8	187.1	135.2	135.8
1990	142.5	140.3	187.0	131.2	133.3
1991 ²	140.7	139.1	180.1	128.0	129.5
Average annual percent change:					
1967-91	3.3	2.8	5.1	1.7	2.3
1979-90	3.4	3.0	5.2	1.7	2.2

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 166. Furniture and homefurnishings stores (SIC 571): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	73.2	82.0	61.5	84.1	75.1
1968	83.8	90.4	68.8	82.1	76.1
1969	81.5	87.5	70.8	86.9	80.9
1970	81.4	87.2	71.6	88.0	82.1
1971	84.8	91.0	76.2	89.9	83.7
1972	95.3	101.8	89.3	93.7	87.7
1973	98.6	104.4	96.4	97.8	92.3
1974	95.3	101.4	95.2	99.9	93.9
1975	92.4	98.2	87.5	94.7	89.1
1976	96.8	101.8	93.8	96.9	92.1
1977	102.4	106.3	101.9	99.5	95.9
1978	100.2	104.8	107.4	107.2	102.5
1979	107.5	110.4	115.0	107.0	104.2
1980	100.5	103.8	109.4	108.9	105.4
1981	103.6	106.2	106.3	102.6	100.1
1982	100.0	100.0	100.0	100.0	100.0
1983	107.2	109.2	113.2	105.6	103.7
1984	117.4	118.2	126.6	107.8	107.1
1985	113.9	115.8	133.5	117.2	115.3
1986	122.0	122.2	147.5	120.9	120.7
1987	120.5	120.2	148.8	123.5	123.8
1988	119.5	122.2	155.4	130.0	127.2
1989	121.7	124.1	164.1	134.8	132.2
1990	124.4	125.3	159.4	128.1	127.2
1991 ²	118.4	119.8	148.1	125.1	123.6
Average annual percent change:					
1967-91	2.0	1.6	3.7	1.7	2.1
1979-90	1.3	1.2	3.0	1.6	1.8

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 167. Appliance, radio, television, and computer stores (SIC 572, 573): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	53.1	59.6	45.3	85.3	76.0
1968	59.4	64.1	48.8	82.2	76.1
1969	56.0	61.4	49.7	88.7	80.9
1970	63.0	67.2	52.7	83.6	78.4
1971	58.9	64.1	53.1	90.2	82.9
1972	64.8	69.4	60.5	93.4	87.2
1973	73.1	75.5	65.9	90.2	87.3
1974	71.2	74.0	67.0	94.1	90.5
1975	73.7	77.1	70.4	95.5	91.3
1976	74.8	78.6	76.2	101.9	96.9
1977	77.7	80.5	80.1	103.1	99.5
1978	80.8	84.2	86.0	106.5	102.1
1979	87.3	91.4	96.5	110.5	105.6
1980	96.2	97.0	98.3	102.2	101.3
1981	102.8	102.3	101.9	99.1	99.6
1982	100.0	100.0	100.0	100.0	100.0
1983	110.9	112.8	118.6	106.9	105.1
1984	118.5	117.9	133.3	112.5	113.1
1985	131.6	128.0	160.0	121.6	125.0
1986	140.9	135.1	179.1	127.1	132.6
1987	145.6	139.5	186.2	127.9	133.5
1988	165.5	160.5	211.7	127.9	131.9
1989	166.9	161.0	226.8	135.9	140.9
1990	173.4	165.2	235.6	135.9	142.6
1991 ²	178.6	171.7	237.4	132.9	138.3
Average annual percent change:					
1967-91	5.2	4.5	7.1	1.9	2.5
1979-90	6.4	5.5	8.5	1.9	2.8

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 168. Household appliance stores (SIC 5722): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	83.0	90.4	99.4	119.7	109.9
1973	89.3	94.1	102.0	114.2	108.4
1974	89.7	94.3	99.1	110.5	105.1
1975	87.6	92.5	88.4	100.7	95.6
1976	84.7	89.8	93.9	110.8	104.6
1977	97.9	101.9	102.1	104.3	100.2
1978	98.0	102.1	104.8	106.9	102.6
1979	109.2	113.2	115.7	106.0	102.2
1980	107.7	108.8	111.3	103.3	102.3
1981	112.6	112.4	106.4	94.5	94.7
1982	100.0	100.0	100.0	100.0	100.0
1983	107.4	108.7	113.3	105.5	104.2
1984	130.5	130.7	124.8	95.6	95.5
1985	142.2	141.9	146.6	103.1	103.3
1986	159.2	155.9	162.9	102.3	104.5
1987	149.7	146.0	151.3	101.1	103.6
1988	150.1	147.1	154.0	102.6	104.7
1989	156.9	156.3	165.4	105.4	105.8
1990	158.2	156.3	159.0	100.5	101.7
1991 ²	160.2	161.2	146.4	91.4	90.8
Average annual percent change:					
1972-91	3.5	3.1	2.1	-1.4	-1.0
1979-90	3.4	3.0	2.9	-5	0

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 169. Radio, television, and computer stores (SIC 573): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	59.1	62.2	46.4	78.5	74.6
1973	68.7	69.7	52.6	76.6	75.5
1974	65.4	67.1	55.4	84.7	82.6
1975	68.9	71.6	63.7	92.4	89.0
1976	72.4	75.3	69.9	96.6	92.8
1977	70.4	72.6	71.9	102.1	99.1
1978	74.4	77.5	78.9	106.1	101.8
1979	79.1	83.0	89.2	112.7	107.5
1980	92.4	92.8	93.6	101.3	100.9
1981	98.8	97.9	100.2	101.4	102.3
1982	100.0	100.0	100.0	100.0	100.0
1983	112.2	114.3	120.7	107.6	105.6
1984	112.4	111.3	136.9	121.8	123.0
1985	125.6	120.7	165.5	131.8	137.1
1986	132.1	125.4	185.9	140.7	148.3
1987	140.7	133.7	200.8	142.7	150.2
1988	166.4	160.5	235.9	141.8	147.0
1989	165.2	157.4	252.4	152.8	160.4
1990	172.2	161.8	267.7	155.5	165.5
1991 ²	176.8	167.3	275.5	155.8	164.7
Average annual percent change:					
1972-91	5.9	5.1	9.8	3.7	4.3
1979-90	7.3	6.3	10.5	3.0	4.0

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 170. Eating and drinking places (SIC 581): Indexes of output per hour and related measures, 1967-91
(1982=100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	100.6	129.7	65.1	64.7	50.2
1968	102.8	130.7	68.9	67.0	52.7
1969	100.9	124.8	69.5	68.9	55.7
1970	103.9	125.0	72.4	69.7	57.9
1971	101.0	120.9	72.9	72.2	60.3
1972	105.0	122.8	77.1	73.4	62.8
1973	106.7	122.1	81.3	76.2	66.6
1974	101.9	114.6	80.2	78.7	79.0
1975	103.8	115.1	83.8	80.7	72.8
1976	104.4	113.4	88.6	84.9	78.1
1977	103.1	109.2	91.2	88.5	83.5
1978	102.6	106.5	95.2	92.8	89.4
1979	102.6	104.2	98.3	95.8	94.3
1980	102.7	102.3	98.3	95.7	96.1
1981	100.3	100.2	98.6	98.3	98.4
1982	100.0	100.0	100.0	100.0	100.0
1983	99.0	99.5	103.7	104.8	104.2
1984	95.3	95.9	106.3	111.5	110.8
1985	92.6	91.8	107.6	116.2	117.2
1986	95.6	93.5	112.5	117.7	120.3
1987	96.1	95.4	119.0	123.8	124.7
1988	98.3	96.6	124.2	126.4	128.6
1989	97.0	94.9	124.6	128.5	131.3
1990	97.6	94.6	126.2	129.3	133.4
1991 ²	101.0	96.6	126.3	125.1	130.7
Average annual percent change:					
1958-91	.3	-.9	2.8	2.5	3.7
1979-90	-5	-.9	2.3	2.8	3.2

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 171. Drug and proprietary stores (SIC 5912): Indexes of output per hour and related measures, 1967-91
(1982=100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	62.1	73.6	67.3	108.3	91.4
1968	67.6	78.3	72.5	107.3	92.6
1969	71.2	80.1	75.5	106.1	94.2
1970	77.3	85.8	81.0	104.8	94.4
1971	78.9	87.7	82.0	103.9	93.5
1972	81.8	90.2	85.9	105.0	95.2
1973	90.0	97.3	93.1	103.4	95.7
1974	91.0	98.8	95.0	104.4	96.2
1975	87.4	97.5	94.0	107.6	96.4
1976	90.0	98.2	95.7	106.3	97.5
1977	92.7	97.5	96.2	103.8	98.7
1978	95.2	100.3	98.6	103.6	98.3
1979	96.2	102.1	101.9	105.9	99.8
1980	99.1	101.2	101.8	102.7	100.6
1981	99.7	100.8	101.8	102.1	101.0
1982	100.0	100.0	100.0	100.0	100.0
1983	104.0	103.3	103.8	99.8	100.5
1984	102.2	103.3	106.7	104.4	103.3
1985	98.9	100.5	108.0	109.2	107.5
1986	98.5	99.7	110.6	112.3	110.9
1987	97.5	98.1	113.0	115.9	115.2
1988	99.4	97.7	114.1	114.8	116.8
1989	100.2	98.1	117.3	117.1	119.6
1990	101.7	100.6	122.6	120.5	121.9
1991 ²	106.5	105.2	127.5	119.7	121.2
Average annual percent change:					
1958-91	2.8	2.0	3.4	5	1.3
1979-90	.5	-.1	1.7	1.2	1.8

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. All persons and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 172. Liquor stores (SIC 5921): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	93.4	107.0	94.3	101.0	88.1
1973	93.3	109.0	96.8	103.7	88.8
1974	92.1	107.9	96.8	105.1	89.7
1975	89.1	103.5	96.6	108.4	93.3
1976	93.3	105.4	98.1	105.1	93.1
1977	92.6	104.1	100.1	108.1	96.2
1978	87.9	95.8	98.5	112.1	102.8
1979	89.3	95.9	101.7	113.9	106.1
1980	94.5	96.9	104.1	110.2	107.4
1981	96.1	97.5	102.2	106.3	104.8
1982	100.0	100.0	100.0	100.0	100.0
1983	94.7	97.9	101.3	107.0	103.5
1984	92.5	94.0	95.0	102.7	101.1
1985	100.7	98.9	98.9	98.2	100.0
1986	92.8	94.2	97.3	104.8	103.3
1987	87.3	92.2	94.7	106.5	102.7
1988	85.5	90.6	91.1	106.6	100.6
1989	87.6	90.8	89.6	102.3	98.7
1990	90.9	93.1	92.2	101.4	99.0
1991 ²	91.1	92.2	85.7	94.1	92.9
Average annual percent change:					
1972-91	-1	-8	-5	-4	3
1979-90	2	-3	-9	-1.1	-6

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 173. Commercial banks (SIC 602): Indexes of output per hour and related measures, 1967-90
(1982 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	90.1	89.0	46.2	51.3	51.9
1968	91.5	90.9	49.8	54.4	54.8
1969	90.2	89.7	53.1	58.9	59.2
1970	91.8	90.6	57.1	62.2	63.0
1971	95.3	94.3	61.2	64.2	64.9
1972	97.2	96.5	65.8	67.7	68.2
1973	102.8	102.4	73.6	71.6	71.9
1974	96.6	96.5	73.4	76.0	76.1
1975	96.6	96.8	74.9	77.5	77.4
1976	102.0	102.0	81.2	79.6	79.6
1977	107.4	107.5	88.5	82.4	82.3
1978	108.8	108.9	93.9	86.3	86.2
1979	106.6	106.1	98.4	90.4	90.9
1980	99.6	98.8	94.0	94.4	95.1
1981	97.4	97.4	95.8	98.4	98.4
1982	100.0	100.0	100.0	100.0	100.0
1983	108.9	108.3	108.2	99.4	99.9
1984	112.0	111.9	112.8	100.7	100.8
1985	117.8	116.8	119.7	101.6	102.5
1986	120.0	119.6	124.3	103.6	103.9
1987	124.9	123.4	128.0	102.5	103.7
1988	129.3	125.9	130.2	100.7	103.4
1989	127.8	124.0	130.1	101.8	104.9
1990	135.7	131.6	138.7	102.2	105.4
Average annual percent change:					
1967-90	1.8	1.7	4.9	3.0	3.1
1979-90	2.2	2.0	3.4	1.1	1.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Reserve Bank of Atlanta, the Board of Governors, Federal Reserve System, the Federal Deposit Insurance

Corporation, the U.S. Department of Housing and Urban Development, the VISACARD Network and Interbank Card Network Associations, the American Council of Life Insurance, and the National Automatic Clearing House Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 174. Hotels and motels (SIC 7011): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	91.0	105.4	63.9	70.2	60.6
1968	88.1	100.5	63.1	71.6	62.8
1969	89.0	100.3	64.9	72.9	64.7
1970	93.5	103.2	67.7	72.4	65.6
1971	83.7	90.2	61.0	72.9	67.6
1972	98.9	105.5	74.6	75.4	70.7
1973	101.0	108.3	79.9	79.1	73.8
1974	97.8	103.1	78.9	80.7	76.5
1975	98.4	101.4	79.2	80.5	78.1
1976	105.0	107.8	86.9	82.8	80.6
1977	109.7	110.6	91.9	83.8	83.1
1978	114.3	115.3	99.0	86.6	85.9
1979	107.8	108.8	100.9	93.6	92.7
1980	102.0	102.2	96.2	94.3	94.1
1981	101.7	102.1	100.4	98.7	98.3
1982	100.0	100.0	100.0	100.0	100.0
1983	103.7	102.9	105.8	102.0	102.8
1984	99.5	98.9	108.7	109.3	109.9
1985	99.0	97.8	113.4	114.5	111.0
1986	96.7	96.0	114.8	118.7	119.6
1987	97.7	97.6	124.7	127.7	127.8
1988	94.3	96.2	130.0	137.9	135.1
1989	90.9	92.4	129.5	142.4	140.2
1990	86.7	86.7	123.5	142.4	142.4
1991 ²	87.8	87.4	121.0	137.8	138.5
Average annual percent change:					
1958-91	.7	.0	3.1	2.4	3.2
1979-90	-2.0	-2.0	1.9	3.9	4.0

¹ All persons include paid employees and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics, Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 175. Laundry, cleaning, and garment services (SIC 721): Indexes of output per hour and related measures, 1967-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1967	105.8	118.2	191.8	181.3	162.3
1968	109.0	118.2	188.4	172.8	159.4
1969	107.2	116.4	181.1	168.9	155.6
1970	104.5	112.7	168.1	160.9	149.2
1971	106.7	112.3	154.1	144.4	137.2
1972	109.6	117.0	153.0	139.6	130.8
1973	108.8	118.0	144.3	132.6	122.3
1974	108.3	114.9	131.2	121.2	114.2
1975	106.5	112.1	122.9	115.4	109.6
1976	107.2	112.0	117.7	109.8	105.1
1977	110.3	114.4	118.2	107.2	103.3
1978	115.1	119.5	122.8	106.7	102.8
1979	107.8	111.5	117.6	109.1	105.5
1980	100.3	103.8	111.9	111.6	107.8
1981	97.6	99.7	104.1	106.7	104.4
1982	100.0	100.0	100.0	100.0	100.0
1983	99.6	100.2	102.8	103.2	102.6
1984	102.0	102.9	109.7	107.6	106.6
1985	98.0	100.4	111.5	113.8	111.1
1986	95.4	98.3	110.7	116.0	112.6
1987	94.7	96.6	113.0	119.3	117.0
1988	93.6	97.5	120.7	128.9	123.8
1989	95.8	99.3	121.4	126.7	122.2
1990	96.7	98.5	121.3	125.5	123.2
1991 ²	94.5	96.6	117.8	124.7	121.9
Average annual percent change:					
1958-91	.2	-.2	-1.0	-1.2	-.8
1979-90	-1.0	-1.1	.3	1.3	1.4

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics, Bureau of the Census, and the Bureau of Economic Analysis, U.S. Department of Commerce, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 176. Beauty and barber shops (SIC 7231, 7241): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	96.0	106.7	111.0	115.6	104.0
1973	92.2	103.2	109.2	118.5	105.8
1974	92.7	100.6	103.8	112.0	103.2
1975	90.3	97.5	99.9	110.6	102.5
1976	86.9	94.1	96.6	111.1	102.7
1977	91.3	97.9	102.2	111.9	104.4
1978	94.7	100.8	107.7	113.7	106.8
1979	96.3	102.2	108.0	109.9	105.7
1980	94.0	97.7	105.9	112.6	108.4
1981	99.8	102.6	102.1	102.3	99.5
1982	100.0	100.0	100.0	100.0	100.0
1983	111.8	111.3	114.1	102.1	102.5
1984	104.9	107.8	114.7	109.3	106.4
1985	102.7	108.4	119.1	116.0	109.9
1986	104.6	110.4	123.8	118.4	112.1
1987	108.4	114.3	131.0	120.9	114.6
1988	106.1	113.6	137.9	130.0	121.4
1989	112.0	120.1	142.4	127.1	118.6
1990	109.4	116.9	141.2	129.1	120.8
1991 ²	109.9	116.5	144.4	131.4	124.0
Average annual percent change:					
1972-91	7	5	14	7	9
1979-90	1.0	1.2	2.5	1.5	1.2

¹ All persons include paid employees and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 177. Beauty shops (SIC 7231): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	96.6	106.2	100.0	103.5	94.2
1973	93.4	102.5	98.4	105.3	96.0
1974	93.3	99.9	95.9	102.8	96.0
1975	87.9	93.1	91.0	103.5	97.7
1976	82.9	89.1	87.9	106.0	98.7
1977	87.8	94.0	96.2	109.6	102.3
1978	92.1	98.1	102.2	111.0	104.2
1979	94.9	99.7	104.4	110.0	104.7
1980	93.5	96.8	103.3	110.5	106.7
1981	100.7	103.1	101.2	100.5	98.2
1982	100.0	100.0	100.0	100.0	100.0
1983	109.8	110.9	116.2	105.8	104.8
1984	104.3	108.1	118.1	113.2	109.3
1985	101.8	108.6	123.1	120.9	113.4
1986	102.6	109.7	127.9	124.6	116.6
1987	105.9	113.2	136.0	128.4	120.1
1988	102.6	112.1	144.6	141.0	129.0
1989	109.3	119.6	152.2	139.2	127.3
1990	108.5	118.3	151.5	139.6	126.1
1991 ²	107.3	116.5	151.9	141.6	130.4
Average annual percent change:					
1972-91	6	5	2.2	1.7	1.7
1979-90	1.2	1.6	3.4	2.2	1.9

¹ All persons include paid employees and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 178. Automotive repair shops (SIC 753): Indexes of output per hour and related measures, 1972-91
(1982 = 100)

Year	Output per hour of all persons ¹	Output per person	Output	Hours of all persons	All persons
Index:					
1972	118.8	120.9	81.5	68.6	67.4
1973	119.3	124.5	87.0	72.9	69.9
1974	123.8	128.5	91.5	73.9	71.2
1975	116.6	118.9	91.1	79.1	71.6
1976	119.3	121.7	96.0	80.5	78.9
1977	114.3	115.5	98.1	85.8	84.9
1978	115.4	116.1	104.0	90.1	89.6
1979	114.7	116.7	109.7	95.6	94.0
1980	109.6	111.0	104.7	95.5	94.3
1981	106.8	106.4	101.0	94.6	94.9
1982	100.0	100.0	100.0	100.0	100.0
1983	98.1	98.8	106.0	108.1	107.3
1984	100.1	100.3	116.2	116.1	115.8
1985	108.4	108.6	134.3	123.9	123.7
1986	104.8	106.1	134.2	128.0	126.5
1987	108.8	108.2	139.3	128.0	128.7
1988	114.7	114.0	150.6	131.3	132.1
1989	117.2	118.0	157.1	134.0	133.1
1990	115.8	116.8	156.3	135.0	133.8
1991 ²	108.9	108.9	144.2	132.4	132.4
Average annual percent change:					
1972-91	-5	-5	3.0	3.5	3.6
1979-90	.1	0	3.3	3.2	3.3

¹ All persons include paid employees, unpaid family workers, and the self-employed.

² Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Part II. Multifactor Productivity Trends for Selected Industries

In multifactor productivity measures, output is related to combined inputs of labor, capital, and intermediate purchases. The relationship between multifactor productivity and labor productivity (in which output is related only to labor input) is shown in table 179.

Multifactor productivity is equal to output per hour minus the effects of changes in capital per hour and intermediate purchases per hour. These effects are measured as the change in the ratio of nonlabor to labor inputs, weighted by the nonlabor input's share in the total cost of output. The capital effect, for example, is the change in the capital-labor ratio weighted by capital's share in the total cost of output. Although multifactor productivity is free of these effects of changes in other inputs relative to labor, it still reflects the impact of many influences such as economies of scale, capacity utilization, and skill and effort of the work force as well as technological change. Tables 180, 182, 184, 186, 188, and 190 present indexes of multifactor productivity and single factor productivity, where output is related to each single factor alone. Tables 181, 183, 185, 187, 189, and 191 present the indexes of output, combined inputs, and inputs of labor, capital, and intermediate purchases separately.

Current developments

Multifactor productivity increased during 1990 in three industries: Tires and inner tubes (1.6 percent), steel (1.3 percent), and farm and garden machinery (5.6 percent). Declines in multifactor productivity were recorded in footwear (10.4 percent), motor vehicles and equipment (5.2 percent), and in railroad transportation (0.2 percent).

In tires and inner tubes, the 1.6-percent multifactor productivity gain resulted from the output decrease of 1.5 percent being exceeded by the 3.0-percent reduction in combined inputs. Capital input rose 3.6 percent, but reductions occurred in employee hours (2.5 percent) and in intermediate purchases (5.8 percent). In the steel industry, a slight gain in output of 0.8 percent and a slight decline in combined inputs of 0.4 percent yielded the 1.3-percent increase in multifactor productivity. Capital and employee hours both fell in this industry, (by 2.5 percent and 1.1 percent, respectively), but intermediate purchases rose slightly (0.4 percent). Farm machinery's 5.6-percent surge in multifactor productivity resulted from a 7.9-percent gain in output and a 2.2-percent increase in combined inputs. Employee hours rose by 2.5 percent and intermediate purchases gained 5.3 percent, while capital input fell 3.6 percent.

The footwear industry in 1990 recorded its largest output decline (14.0 percent) since 1958 (the beginning of the measurement period). Combined inputs fell only 4.0 percent, resulting in the largest decline in multifactor productivity for the entire measurement period of 10.4 percent. Employee hours fell 6.3 percent, but reductions in capital (3.6 percent) and intermediate purchases (3.2 percent) were smaller. A decline of 5.2 percent in multifactor productivity occurred in motor vehicles and equipment in 1990, as the reduction in combined inputs of 2.9 percent did not match the output decrease of 7.9 percent. Employee hours declined (7.4 percent) by almost as much as output, but intermediate purchases fell only 2.6 percent and capital input actually rose by 1.1 percent.

Table 179. Multifactor productivity growth and its relationship to output per hour for selected industries, 1958-90
(Average annual percent change¹)

Industry	Multifactor productivity equals	Output per hour minus	Capital effect ² minus	Intermediate purchases effect ³
Tires and inner tubes	2.4	3.9	0.3	1.1
Footwear	-1.2	4	5	1.1
Steel	1.7	3.2	0	1.5
Farm and garden machinery	4	1.6	.9	.9
Motor vehicles and equipment	1.4	3.2	-0.1	1.9
Railroad transportation	3.8	5.6	.5	1.3

¹ Data on the average annual percent change are based on compound rates of change. Each measure presented in this table is computed independently. Therefore, output per hour minus the capital effect minus the intermediate purchases effect may not exactly equal multifactor productivity.

² The capital effect is the change in capital relative to labor over the given time period weighted by the share of capital in the total cost of output.

³ The intermediate purchases effect is the change in intermediate purchases relative to labor over the given time period weighted by the share of intermediate purchases in the total cost of output.

In railroad transportation, a slight multifactor productivity drop (0.2 percent) resulted from declines of 2.6 percent in output and 2.4 percent in combined inputs. Similar decreases were recorded for capital (2.1 percent), employee hours (2.2 percent), and intermediate purchases (2.8 percent).

Long-term trends

Charts 2-7 illustrate the overall long-term results for the industries for which multifactor measures have been developed to date. These results are presented in terms of multifactor productivity and its relationship to labor productivity. In the tires and tubes industry (chart 2), multifactor productivity rose at an average annual rate of 2.4 percent per year from 1958 to 1990. This growth rate was somewhat slower (which is typical of many industries) than the 3.9-percent average annual growth rate for output per hour as the inputs of capital and intermediate purchases grew relative to labor, yielding weighted effects of 0.3 percent for capital and 1.1 percent for intermediate purchases. In footwear (chart 3), multifactor productivity fell at an average rate of 1.2 percent per year over the 1958-90 period. The gain in output per hour was more than offset by the weighted effects of increases in capital per hour (0.5 percent) and intermediate purchases per hour (1.1 percent). In steel (chart 4), multifactor productivity increased at a rate of 1.7 percent per year, on average, from 1958 to 1990. Output per hour rose at an average annual rate of 3.2 percent per year over the period, while the capital effect showed no change on average, and the intermediate purchases effect gained 1.5 percent.

Multifactor productivity grew only slightly, by 0.4 percent per year on average, over the whole period in the farm and garden machinery industry (chart 5), as the weighted increases in inputs of capital relative to labor (0.3 percent) and intermediate purchases to labor (0.9 percent) were almost as much as the gain in output per hour (1.6 percent). The 3.2-percent average annual rise in output per hour in the motor vehicles and equipment industry (chart 6) over the period, along with a 1.9-percent average increase in the intermediate purchases effect and a decline of 0.1 percent on average in the capital effect, netted out to

a 1.4-percent average gain in multifactor productivity. A 3.8-percent average annual increase in multifactor productivity was recorded in railroad transportation (chart 7). Output per hour gained 5.6 percent per year on average, while the capital effect and intermediate purchases effect grew 0.5 percent and 1.3 percent, respectively.

Variations in industry trends in multifactor productivity

Many industries experienced a slowdown in labor productivity growth in the 1970's compared to earlier years, and then saw a rebound in productivity growth in the 1980's. This pattern is evident in multifactor productivity growth as well in three of the six industries published to date. In the steel industry, multifactor productivity rose at an average annual rate of 1.4 percent per year from 1958 to 1973. Between 1973 and 1979, it slowed to no change per year, on average. From 1979 to 1990, it rebounded to 2.9 percent per year, on average. In farm and garden machinery, multifactor productivity posted a modest 0.4-percent average annual gain from 1958 to 1973. In the second period, it fell off to a decline of 0.1 percent per year on average. After 1979, it rebounded to a positive growth rate of 0.5 percent per year. Multifactor productivity in railroad transportation, after slowing from an average annual gain of 4.5 percent in the pre-1973 period to 1.2 percent in the 1973-79 period, rebounded to a 4.3-percent growth rate after 1979.

The other industries were characterized by different patterns. In tires and inner tubes, multifactor productivity accelerated from a 1.5-percent average annual increase in the first period to 2.2 percent in the 1973-79 period and continued to accelerate after 1979, growing at a 3.8-percent rate. Multifactor productivity growth was improved in the second period for footwear as well (at a 0.7 percent average gain compared to a 0.7 percent decline before 1973), but then fell off sharply to a 2.7-percent average annual decrease for the 1979-90 period. In motor vehicles and equipment, multifactor productivity slowed from an average annual rise of 2.5-percent to 1.2 percent from the 1958-73 period to the 1973-79 period. After 1979, it slowed further to no change, on average.

Chart 2. Multifactor productivity for tires and inner tubes (SIC 3011), 1958-90

(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases.)

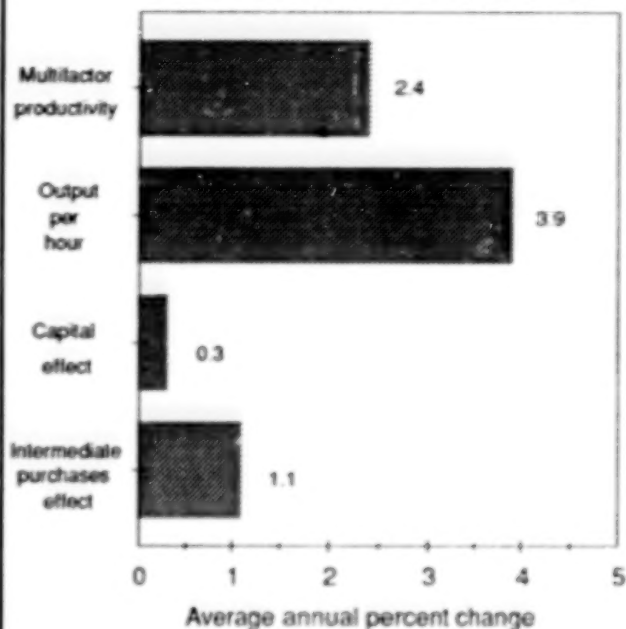


Chart 3. Multifactor productivity for footwear (SIC 314), 1958-90

(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases.)

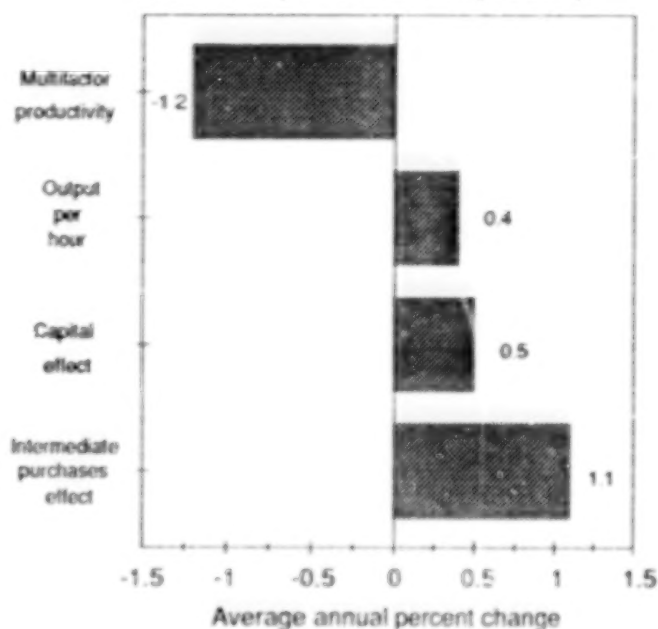


Chart 4. Multifactor productivity for steel (SIC 331), 1958-90

(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases.)

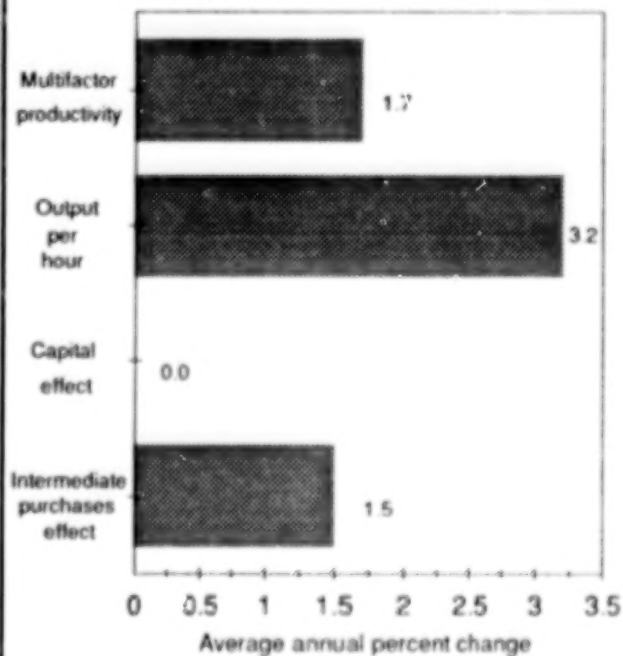
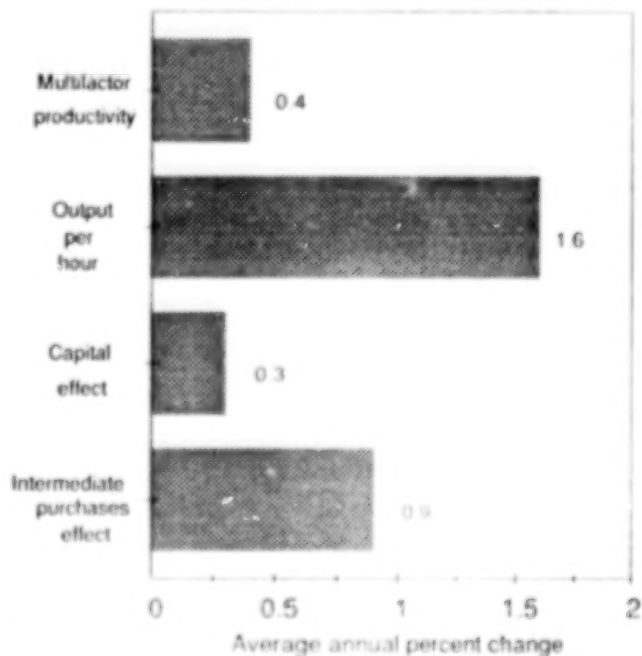


Chart 5. Multifactor productivity for farm and garden machinery (SIC 352), 1958-90

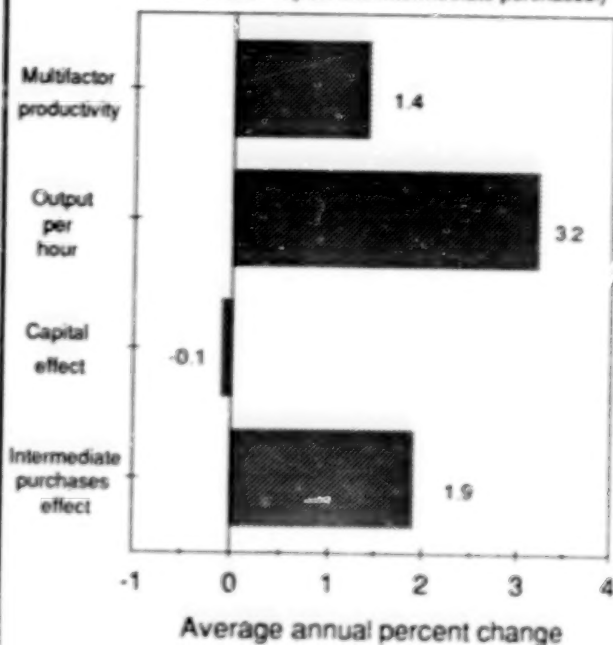
(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases.)



Note: Average annual percent change using compound rate formula

Chart 6. Multifactor productivity for motor vehicles and equipment (SIC 371), 1958-90

(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases.)



Note: Average annual percent change using compound rate formula.

Chart 7. Multifactor productivity for railroad transportation (SIC 4011), 1958-90

(Multifactor productivity equals output per hour minus the effects of capital and intermediate purchases.)

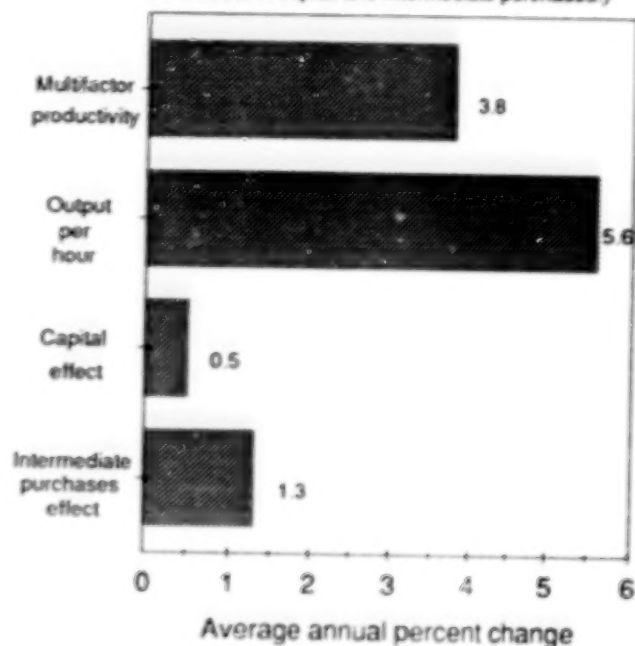


Table 180. Tires and inner tubes (SIC 3011): Multifactor and related productivity indexes,¹ 1967-90
(1982 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	72.1	63.9	95.4	70.6
1968	76.0	68.3	106.3	72.0
1969	73.1	66.1	96.8	70.9
1970	72.3	67.6	95.2	71.3
1971	76.7	72.7	93.1	74.6
1972	78.2	75.5	99.4	74.2
1973	77.5	73.3	95.8	75.1
1974	76.0	71.7	92.4	74.2
1975	73.0	70.6	77.7	73.2
1976	76.0	77.3	82.5	74.4
1977	83.6	77.6	106.4	81.4
1978	86.6	83.9	105.8	83.7
1979	88.5	83.6	105.7	80.7
1980	86.7	79.4	86.1	89.9
1981	84.1	91.7	98.0	93.9
1982	100.0	100.0	100.0	100.0
1983	107.5	106.9	116.3	104.6
1984	113.2	116.3	140.0	103.2
1985	112.5	116.8	132.1	103.7
1986	116.0	120.6	129.9	109.2
1987	126.5	130.2	147.7	117.3
1988	138.0	136.2	157.8	114.5
1989	131.1	139.6	157.9	118.1
1990	133.2	141.0	150.2	123.6
Average annual percent change:				
1968-90	2.4	3.9	1.6	2.0
1979-90	3.8	4.9	3.2	3.3

¹ The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census and

the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury. Moody's Investor's Service, the Bureau of Economic Analysis, U.S. Department of Commerce, the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 181. Tires and inner tubes (SIC 3011): Output and input indexes, 1967-90
(1982 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	85.9	115.2	134.4	90.0	121.7
1968	104.3	137.3	152.8	98.1	142.5
1969	106.8	146.2	161.5	110.3	150.7
1970	101.1	139.9	149.2	116.7	141.6
1971	113.4	147.9	156.0	121.8	152.1
1972	123.9	158.5	164.2	124.6	166.9
1973	124.9	161.2	170.5	130.4	166.3
1974	126.6	166.6	176.6	137.0	170.7
1975	109.5	149.9	155.1	140.9	149.5
1976	108.7	143.0	140.7	131.8	146.1
1977	133.4	159.6	171.8	125.4	163.9
1978	129.6	149.6	154.4	122.5	154.9
1979	125.6	142.0	150.2	118.6	144.9
1980	98.1	113.2	123.6	113.9	109.1
1981	105.4	112.0	115.0	107.6	112.3
1982	100.0	100.0	100.0	100.0	100.0
1983	107.2	99.7	100.3	90.2	102.5
1984	123.6	109.2	106.3	88.3	119.8
1985	118.2	105.1	101.2	88.5	114.0
1986	114.6	98.8	95.0	88.9	104.9
1987	127.3	100.6	97.6	86.2	108.5
1988	133.3	104.1	97.9	84.5	116.4
1989	136.1	103.8	97.5	86.2	115.2
1990	134.1	100.7	95.1	80.3	108.5
Average annual percent change:					
1968-90	2.9	5	-1.0	1.3	9
1979-90	6	-3.1	-6.1	-2.6	-2.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data

from the Internal Revenue Service, U.S. Department of the Treasury. Moody's Investor's Service, the Bureau of Economic Analysis, U.S. Department of Commerce, the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 182. Footwear (SIC 314): Multifactor and related productivity indexes,^a 1967-90
(1982 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index				
1967	109.2	87.3	151.8	112.2
1968	111.9	90.5	157.5	113.6
1969	105.1	84.8	136.6	109.9
1970	107.3	91.2	135.2	109.5
1971	106.4	92.8	131.2	107.5
1972	106.2	90.5	132.5	106.3
1973	104.5	89.6	121.5	108.8
1974	101.2	88.6	112.2	105.6
1975	100.4	92.1	107.4	103.0
1976	102.8	92.7	115.6	104.8
1977	103.4	94.4	113.4	105.5
1978	104.2	96.1	113.4	106.1
1979	106.7	94.1	111.3	116.1
1980	100.2	92.5	107.3	102.3
1981	95.9	89.7	103.3	97.0
1982	100.0	100.0	100.0	100.0
1983	98.4	99.2	97.1	99.6
1984	97.3	99.2	89.3	98.7
1985	91.6	99.4	80.2	91.3
1986	91.0	101.3	75.0	91.2
1987	93.9	99.5	76.8	95.3
1988	93.9	102.0	78.9	94.8
1989	89.6	100.7	75.1	89.0
1990	80.3	92.4	67.0	79.1
Average annual percent change				
1958-90	-1.2	.4	-2.6	-1.5
1979-90	-2.7	-2	-4.5	-3.4

^a The output measures underlying the productivity indexes relate to the total net production of the industry. They do not include the specific output of any single factor or production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau

of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury, Moody's Investor's Service, the Bureau of Economic Analysis, U.S. Department of Commerce, the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 183. Footwear (SIC 314): Output and input indexes, 1967-90
(1982 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index					
1967	160.6	147.1	183.9	105.8	143.2
1968	170.8	152.7	188.8	108.2	150.4
1969	153.1	145.7	180.6	112.1	139.3
1970	150.9	140.6	165.5	111.6	137.8
1971	142.1	133.5	153.2	108.3	132.2
1972	140.8	133.9	155.5	106.3	132.4
1973	132.2	126.5	147.6	106.8	121.5
1974	122.7	121.2	138.5	109.4	116.2
1975	113.8	113.4	123.6	106.0	110.5
1976	117.9	114.7	127.2	102.0	112.5
1977	115.9	112.1	122.8	102.2	109.9
1978	115.3	110.6	120.0	101.7	108.7
1979	109.0	100.3	115.8	97.9	93.9
1980	104.7	104.5	113.2	97.6	102.3
1981	101.9	106.3	113.6	98.6	105.0
1982	100.0	100.0	100.0	100.0	100.0
1983	90.6	94.7	95.3	96.4	94.0
1984	83.2	85.5	83.9	93.2	84.3
1985	72.0	78.8	72.4	89.8	78.9
1986	64.0	70.3	63.2	85.3	70.2
1987	62.4	66.9	62.7	81.3	65.5
1988	62.1	66.1	60.9	78.7	65.5
1989	57.7	64.4	57.3	76.8	64.8
1990	49.6	61.8	53.7	74.0	62.7
Average annual percent change					
1958-90	-3.5	-2.4	-3.9	-2	-2.0
1979-90	-6.9	-4.3	-6.7	-2.5	-3.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury,

Moody's Investor's Service, the Bureau of Economic Analysis, U.S. Department of Commerce, the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 184. Steel (SIC 331): Multifactor and related productivity indexes,¹ 1967-90
(1982 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	97.4	86.4	126.6	104.1
1968	98.0	88.1	127.5	103.7
1969	99.3	90.1	130.7	104.1
1970	97.9	88.3	121.1	105.0
1971	99.5	92.5	116.9	106.2
1972	101.6	98.3	114.2	103.0
1973	110.1	105.8	154.8	108.9
1974	117.7	111.5	167.2	117.1
1975	101.5	97.9	126.8	103.6
1976	107.3	101.7	133.6	110.9
1977	106.8	102.0	136.4	109.4
1978	111.4	107.2	150.6	112.2
1979	110.4	108.6	157.0	108.6
1980	107.2	107.8	136.9	106.1
1981	106.4	114.2	148.9	100.7
1982	100.0	100.0	100.0	100.0
1983	119.5	121.9	113.2	118.3
1984	124.0	134.0	130.9	118.2
1985	126.3	141.5	131.7	118.4
1986	129.1	148.0	132.9	119.6
1987	145.6	165.0	161.2	134.0
1988	159.6	187.2	199.5	138.8
1989	149.3	178.8	194.5	126.8
1990	151.2	182.4	201.1	127.5
Average annual percent change:				
1958-90	1.7	3.2	2.1	.4
1979-90	2.9	4.8	2.3	1.5

¹ The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Hours based on data from the

American Iron and Steel Institute and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S.

Department of the Treasury, Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 185. Steel (SIC 331): Output and input indexes, 1967-90
(1982 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	144.2	148.1	166.9	113.9	138.5
1968	150.5	153.6	170.8	118.0	145.1
1969	156.7	157.8	174.0	119.9	150.5
1970	145.9	149.0	165.2	120.5	138.9
1971	138.5	139.2	149.8	118.6	130.4
1972	149.1	146.8	151.7	115.4	144.7
1973	174.5	158.5	164.9	112.7	160.3
1974	183.8	156.1	164.8	109.9	157.0
1975	139.6	137.6	142.6	110.1	134.7
1976	147.8	137.7	145.3	110.6	133.3
1977	150.2	140.6	147.3	110.1	137.3
1978	163.2	146.5	152.2	108.4	145.5
1979	167.2	151.4	153.9	106.5	153.9
1980	143.2	133.6	132.8	104.6	135.0
1981	153.2	144.0	134.1	102.9	152.2
1982	100.0	100.0	100.0	100.0	100.0
1983	108.7	91.0	89.2	96.0	91.9
1984	120.2	96.9	89.7	91.8	101.7
1985	115.9	91.8	81.9	88.0	97.9
1986	111.0	86.0	75.0	83.5	92.8
1987	126.4	86.8	76.6	78.4	94.3
1988	149.4	93.6	79.8	74.9	107.6
1989	141.8	95.0	79.3	72.9	111.8
1990	143.0	94.6	78.4	71.1	112.2
Average annual percent change:					
1958-90	1.1	-.5	-2.0	-1.0	.7
1979-90	-1.4	-4.2	-5.9	-3.6	-2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Hours based on data from the American Iron and Steel Institute and the

Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury, Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 186. Farm and garden machinery (SIC 352): Multifactor and related productivity indexes,¹ 1967-90
(1982 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	103.8	91.5	164.8	92.6
1968	102.8	91.1	152.1	93.4
1969	99.2	87.3	138.5	92.1
1970	99.9	89.2	137.0	92.4
1971	103.4	96.3	140.2	94.1
1972	106.8	105.9	156.0	92.1
1973	109.9	109.9	166.5	93.4
1974	115.8	112.4	160.0	101.1
1975	110.1	111.9	151.5	96.0
1976	111.0	115.1	145.3	97.7
1977	110.1	113.7	145.4	96.8
1978	108.0	110.9	134.6	97.5
1979	109.4	111.3	154.7	94.2
1980	104.7	102.6	129.7	96.9
1981	101.5	103.3	124.5	92.5
1982	100.0	100.0	100.0	100.0
1983	97.1	98.1	93.3	98.4
1984	103.2	109.4	107.2	98.3
1985	98.8	103.4	96.3	97.6
1986	95.9	103.9	91.8	93.7
1987	103.5	112.2	107.0	97.5
1988	108.9	118.6	124.9	96.9
1989	109.6	122.2	131.0	94.5
1990	115.7	128.7	146.6	96.7
Average annual percent change:				
1968-90	.4	1.6	-2	-1
1979-90	.5	1.3	-5	2

¹ This output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau

of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service, the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics.

Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 187. Farm and garden machinery (SIC 352): Output and input indexes, 1967-90
(1982 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	119.0	114.6	130.0	72.2	126.5
1968	114.1	111.0	125.2	75.0	122.2
1969	105.4	106.2	120.8	76.1	114.4
1970	104.0	104.1	116.6	75.9	112.5
1971	105.0	101.5	109.0	74.9	111.6
1972	122.9	115.1	116.1	78.8	133.4
1973	147.0	133.7	133.7	88.3	157.4
1974	166.0	143.3	147.7	96.2	164.2
1975	155.4	141.2	138.9	102.6	161.8
1976	152.6	137.5	132.6	105.0	156.2
1977	154.1	140.0	135.5	106.0	159.2
1978	142.5	132.0	128.5	105.9	146.1
1979	167.5	153.1	150.5	108.3	177.8
1980	140.6	134.3	137.1	108.4	145.1
1981	130.3	126.4	126.1	104.7	140.8
1982	100.0	100.0	100.0	100.0	100.0
1983	87.3	89.9	89.0	93.6	88.7
1984	96.7	93.7	88.4	90.2	98.4
1985	83.1	84.1	80.4	86.3	85.1
1986	74.0	77.2	71.2	80.6	79.0
1987	82.7	79.9	73.7	77.3	84.8
1988	96.4	88.5	81.3	77.2	99.5
1989	98.9	90.2	80.9	75.5	104.7
1990	105.7	92.2	82.9	72.8	110.3
Average annual percent change:					
1968-90	.9	.5	-7	1.1	1.1
1979-90	-4.0	-4.5	-5.3	-3.5	-4.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury;

Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics.

Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 188. Motor vehicles and equipment (SIC 371): Multifactor and related productivity indexes,¹ 1967-90
(1982 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	90.1	72.8	109.3	97.9
1968	97.1	79.0	129.7	102.2
1969	97.8	77.4	125.1	105.4
1970	90.7	74.3	99.6	100.5
1971	94.7	86.2	127.9	95.2
1972	98.7	88.1	140.5	98.4
1973	102.7	89.6	154.6	101.6
1974	101.8	85.5	127.0	107.2
1975	103.7	91.6	121.5	108.4
1976	109.6	97.8	158.2	108.7
1977	112.4	104.0	176.5	107.7
1978	112.1	103.5	173.7	107.9
1979	110.1	101.4	154.0	108.6
1980	99.3	93.3	110.0	100.5
1981	99.8	95.6	110.8	100.0
1982	100.0	100.0	100.0	100.0
1983	106.2	113.1	139.8	98.8
1984	110.7	118.7	179.3	98.5
1985	115.1	124.2	189.4	101.8
1986	109.1	123.8	177.1	95.3
1987	111.2	130.2	176.9	96.7
1988	115.2	134.4	188.0	99.7
1989	116.0	134.2	195.4	99.7
1990	110.0	133.4	177.9	94.2
Average annual percent change:				
1958-90	1.4	3.2	3.2	.1
1975-90	.0	2.5	1.3	-1.3

¹ The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census, and

the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 189. Motor vehicles and equipment (SIC 371): Output and input indexes, 1967-90
(1982 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	86.0	95.4	118.1	78.7	87.8
1968	104.8	107.9	132.7	80.8	102.5
1969	104.3	106.7	134.7	83.4	99.0
1970	84.8	93.5	114.1	85.1	84.4
1971	106.4	112.3	123.4	83.2	111.8
1972	116.5	118.0	132.3	82.9	118.4
1973	133.9	130.4	149.5	86.6	131.8
1974	111.9	109.9	120.9	88.1	104.4
1975	103.5	99.8	113.0	85.2	95.5
1976	130.5	119.1	133.4	82.5	120.0
1977	151.8	135.1	145.9	86.0	141.0
1978	158.2	141.1	152.8	91.1	146.6
1979	146.0	132.6	144.0	94.8	134.5
1980	104.6	105.3	112.1	95.1	104.1
1981	109.1	109.3	114.1	98.5	109.1
1982	100.0	100.0	100.0	100.0	100.0
1983	128.5	121.0	113.6	91.9	130.0
1984	156.5	141.4	131.9	87.3	158.9
1985	167.4	145.5	134.8	88.4	164.4
1986	161.5	148.0	130.4	91.2	169.4
1987	166.6	149.8	128.0	94.2	172.2
1988	174.8	151.7	130.1	93.0	175.4
1989	175.1	150.9	130.5	89.6	175.6
1990	161.2	146.5	120.8	90.6	171.1
Average annual percent change:					
1958-90	4.3	2.9	1.1	1.0	4.2
1975-90	.9	.9	-1.6	-4	2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census, and the Bureau of Labor Statistics. Hours

based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 190. Railroad transportation (SIC 4011): Multifactor and related productivity indexes,¹ 1967-90
(1982 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1967	74.0	59.8	85.2	99.0
1968	77.9	62.8	89.4	104.6
1969	79.6	65.2	92.1	102.6
1970	76.2	62.1	90.0	97.5
1971	78.6	66.2	89.9	96.2
1972	85.2	72.3	96.0	104.4
1973	93.5	79.9	107.1	111.1
1974	92.2	78.2	107.1	110.0
1975	86.0	74.4	94.4	102.7
1976	91.2	80.5	103.2	103.6
1977	95.1	84.3	110.0	105.9
1978	98.2	88.6	113.7	106.0
1979	100.4	93.2	117.5	103.4
1980	99.0	93.8	113.5	100.1
1981	98.7	94.6	111.6	99.0
1982	100.0	100.0	100.0	100.0
1983	116.9	123.6	109.2	112.6
1984	125.9	134.0	122.2	117.5
1985	127.6	140.1	119.7	116.3
1986	132.8	153.2	120.7	115.3
1987	145.8	171.8	133.3	122.2
1988	154.2	186.1	143.2	123.9
1989	159.9	197.1	148.4	125.3
1990	159.6	196.2	147.6	125.5
Average annual percent change:				
1958-90	3.8	5.6	3.0	1.1
1979-90	4.3	7.0	2.1	1.8

¹ The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission, the Association of American Railroads, and the National Railroad Passenger Corporation. Hours based on data from the Interstate Commerce Commission. Capital based on data from the

Interstate Commerce Commission, the National Railroad Passenger Corporation, the Internal Revenue Service, U.S. Department of the Treasury, Moody's Investor's Service, the Bureau of Economic Analysis, U.S. Department of Commerce, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Interstate Commerce Commission, the Association of American Railroads, the National Railroad Passenger Corporation, the Edison Electric Institute, and the Bureau of Labor Statistics.

Table 191. Railroad transportation (SIC 4011): Output and input indexes, 1967-90
(1982 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1967	104.6	141.3	175.0	122.8	105.7
1968	108.1	138.7	172.1	120.9	103.3
1969	109.5	137.5	168.0	118.9	106.7
1970	105.4	138.3	169.8	117.1	108.1
1971	103.6	131.8	156.4	115.2	107.7
1972	108.6	127.4	150.2	113.1	104.0
1973	118.9	127.2	148.8	111.0	107.0
1974	116.8	126.7	149.3	109.1	106.2
1975	101.4	117.9	136.2	107.4	98.7
1976	109.1	119.6	135.5	105.7	105.3
1977	115.0	120.9	136.4	104.5	108.6
1978	117.7	119.9	132.9	103.5	111.0
1979	120.7	120.2	129.5	102.7	116.7
1980	116.2	117.4	123.9	102.4	116.1
1981	113.5	115.0	120.0	101.7	114.6
1982	100.0	100.0	100.0	100.0	100.0
1983	106.4	91.0	86.1	97.4	94.5
1984	116.2	92.3	86.7	95.1	98.9
1985	111.9	87.7	79.9	93.5	96.2
1986	110.9	83.5	72.4	91.9	96.2
1987	119.4	81.9	69.5	89.6	97.7
1988	125.4	81.3	67.4	87.6	101.2
1989	127.3	79.6	64.6	85.8	101.6
1990	124.0	77.7	63.2	84.0	98.8
Average annual percent change:					
1958-90	1.2	-2.5	-4.2	-1.8	.1
1979-90	.2	-3.9	-6.3	-1.8	-1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission, the Association of American Railroads, and the National Railroad Passenger Corporation. Hours based on data from the Interstate Commerce Commission. Capital based on data from the Interstate Commerce Commission; the National Railroad Passenger

Corporation; the Internal Revenue Service, U.S. Department of the Treasury, Moody's Investor's Service, the Bureau of Economic Analysis, U.S. Department of Commerce, and the Bureau of Labor Statistics. Intermediate purchases based on data from the Interstate Commerce Commission, the Association of American Railroads, the National Railroad Passenger Corporation, the Edison Electric Institute, and the Bureau of Labor Statistics.

Part III. Labor Productivity Trends for Selected Government Functions and Services

Federal Government

Current developments

Output per employee year decreased 2.3 percent in fiscal 1991 in the measured portion of the Federal Government¹ (table 192). This reflects a decrease of 1.7 percent in output and an increase of 0.6 percent in employee years. This is only the second productivity decrease in 24 years; the other occurred in 1974 when productivity decreased 0.5 percent.

The overall productivity measure covered 299 organizations in 61 Federal agencies in fiscal year 1991. The organizations included 1.9 million executive branch civilian employees representing 64 percent of the total Federal civilian labor force.

To better identify and understand the factors which affect Federal productivity, the 299 Federal organizations are divided into 28 functional categories based on similarity of tasks performed, for example, auditing, medical, personnel, or transportation. (See definitions of functional categories later in this section.) The change in output per employee year for the 28 functions in 1991 ranged from an increase of 88.5 percent for traffic management to a decline of 13.6 percent for education and training. Productivity increased in 9 functions and decreased in 19.

The exceptionally large increase in productivity in the traffic management function resulted from an increase in output of 87.7 percent and a decrease in employee years of 0.4 percent. The traffic management function is responsible for arranging the movement of people or cargo and was greatly affected by the military movement of equipment for Operation Desert Storm.

The communications function, which includes organizations responsible for processing messages and performing telecommunications services for Federal activities, showed the second largest increase in productivity—25.0 percent in 1991. Output increased 26.5 percent while employee years increased 1.2 percent. In contrast, the productivity decline of 13.6 percent in education and training reflected a decrease in output of 17.6 percent and a decrease

in employee years of 4.6 percent. This function is responsible for providing general or specialized education or training. It includes several large military organizations and was, therefore, negatively affected by Operation Desert Storm, which, in this fiscal year focused primarily on military materiel movement and less on training activities.

The U.S. Postal Service is the largest of the 28 functions in terms of employees. Productivity decreased 0.4 percent in 1991 due to a decrease in output of 0.3 percent and an increase in employee years of 0.1 percent. Looking at the past few years, productivity increased 4.4 percent in 1990, but decreased 0.1 percent in both 1988 and 1989.

Long-term trends

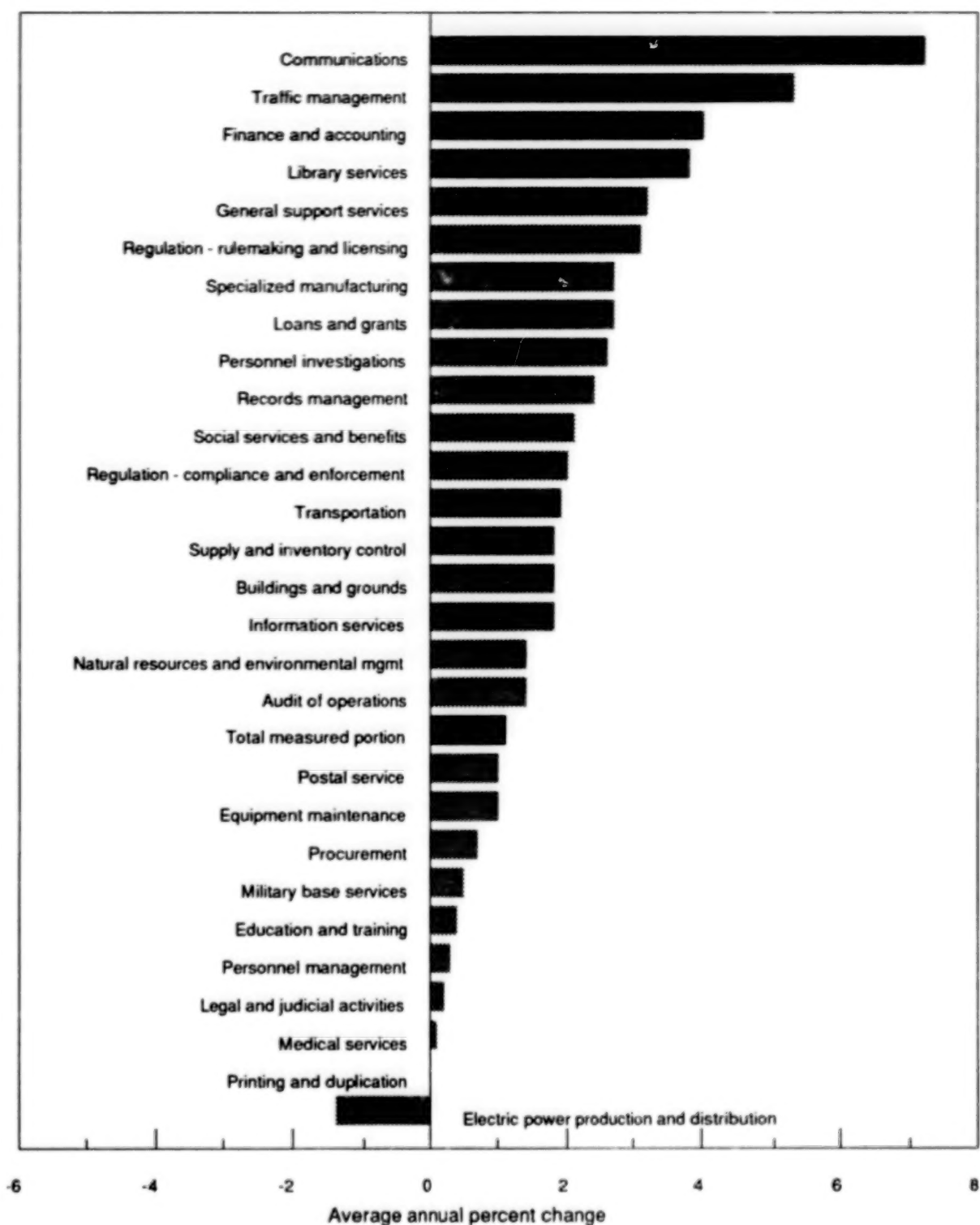
Over the period 1967-91, output per employee year in the measured portion of the Federal Government rose at an average annual rate of 1.1 percent (chart 8). The year-to-year productivity changes ranged from a decline of 2.3 percent in 1991 to an increase of 3.0 percent in 1977. The overall increase in Federal Government productivity reflected an average rise of 1.5 percent in output and an annual increase of 0.4 percent in labor input. Year-to-year changes in output ranged from a decrease of 1.7 percent in 1991 to an increase of 3.7 percent in 1968. Annual rates of change in employee years ranged from a drop of 1.2 percent in 1973 to an increase of 2.6 percent in 1968.

Long-term productivity trends for the 28 functions ranged from an average annual growth of 7.2 percent for communications to an average annual decline of 1.4 percent for electric power production and distribution. The latter function is the only one to show a decline over the long term.

Shifts in program emphasis and delivery of government services over the long term are reflected in both output and employee year trends. In 5 of the 28 functions, average annual rates of change for output were negative during the 1967-91 period. Long-term output trends ranged from an annual average increase of 9.3 percent for communications to an average annual decline of 2.3 percent for printing and duplication. In 13 of the functions, the average annual rates of change for employee years were negative during the 1967-91 period. Long-term employee-year trends ranged from an average annual increase of 3.6 percent for legal and judi-

¹ However, the overall data do not represent "Federal productivity" as a whole. See technical notes for a full explanation.

Chart 8. Output per employee year in the Federal Government by function and the total measured portion, fiscal years 1967-91



Note: Average annual percent change using compound rate formula.

cial activities to an average annual decline of 3.7 percent for supply and inventory control.

Communications experienced the largest average annual increase in productivity over the long term (7.2 percent for 1973-91) of any of the 28 functions. Between 1973 and 1982, productivity increased at an average annual rate of 11.3 percent. However, the increase has slowed dramatically in recent years. Between 1982 and 1991, the average annual increase in communications' productivity was 3.2 percent. In 1989, it registered its first decline, 3.6 percent, and in 1990 productivity declined again by 22.2 percent. Communications rebounded in 1991 with a 25.0-percent increase in productivity. In 1988 and 1989, employee years increased significantly more than output and in 1991 employee years showed only a slight increase. The exceptional productivity increases in the earlier years were due primarily to technological improvements in equipment that receive and transmit messages instantaneously all over the world. In the more recent years preparation for the transition to a new communications system (FTS 2000) resulted in the addition of a large number of newly hired employees to the communications area.

Electric power production and distribution registered the only long-term decrease in productivity (1.4 percent for 1967-91). Between 1967 and 1972, productivity increased at an average annual rate of 5.6 percent. During 1972-77, productivity declined 2.6 percent annually as a result of a slowed average annual output increase of 3.8 percent and an annual employee-year increase of 6.5 percent. During 1977-82, productivity declined 8.9 percent per year due to an output decline of 5.1 percent annually and an average annual employee-year increase of 4.1 percent. In the latest period, 1982-91, all three measures decreased: Productivity, 0.3 percent; output, 5.6 percent; and employee years, 5.3 percent. In the past 3 years this function has shown improvement with productivity increasing 14.9 percent annually, resulting from an increase in output of 6.7 percent and a decrease in employee years of 7.2 percent. In 1991, productivity increased 4.2 percent due to an increase in output of 1.8 percent and a decrease in employee years of 2.3 percent. Although employment in electric power production and distribution has been cut back in most years since 1982, the decreases in output have exceeded the cuts in input by a wide margin. Dry weather conditions affecting hydroelectric plants and the regulatory problems associated with nuclear power production contributed to the decline in output.

Compensation and unit labor costs

Compensation per employee year includes employee benefits as well as salaries and wages. In the Federal agencies, compensation per employee year increased 5.8

percent in fiscal 1991. Unit labor costs, which reflect the interaction of changes in average employee compensation and productivity, increased 8.3 percent in 1991. For comparison, the 1990 rates were 5.8 percent for compensation per employee year and 3.6 percent for unit labor costs.

In 1991, changes in compensation per employee year for the 28 functions ranged from an increase of 13.6 percent for finance and accounting to an increase of 0.3 percent for military base services. The change in unit labor costs ranged from an increase of 20.1 percent for education and training to a decrease of 44.8 percent for traffic management. Only 4 of the 28 functions showed decreasing unit labor costs in 1991.

Compensation per employee year increased at an average annual rate of 7.0 percent between 1967 and 1991, with increases ranging from 11.6 percent in 1971 to 3.0 percent in 1986. While compensation per employee year has increased every year, the rate of increase has slowed. The average annual increase was 8.5 percent between 1967 and 1972; 8.7 between 1972 and 1977; 7.5 between 1977 and 1982; and 4.9 between 1982 and 1991.

Unit labor costs increased at an annual rate of 5.7 percent between 1967 and 1991. The largest increase was 10.8 percent in 1970, the smallest, 1.3 percent in 1986. As with compensation per employee year, unit labor costs have increased every year, with the rate of increase slowing over time: 7.2 percent between 1967 and 1972; 6.9 between 1972 and 1977; 5.8 between 1977 and 1982; and 4.3 between 1982 and 1991.

The average annual increases in compensation per employee year in the 28 functions between 1967 and 1991 were relatively close, ranging from a high of 7.5 percent for the Postal Service, where employees bargain for compensation, to a low of 5.1 percent in procurement. The rates of change in unit labor costs showed a wider spread, ranging from an average annual increase for 1972-91 of 8.1 percent for electric power production and distribution to an average annual decrease of 0.7 percent for traffic management.

State and Local Government

Electric services (SIC 4911)

Productivity (as measured by output per employee year) in State and local government electric power services increased 0.3 percent in 1991 as output increased 1.6 percent and input increased 1.3 percent. These increases are a continuation of the medium- and long-term trends. The long-term productivity trend (1967-91) shows an average annual increase of 2.1 percent, with output increasing at a rate of 3.6 percent and employment increasing at 1.4 percent.

State sales of alcoholic beverages (SIC 5182 part and 5921 part)

Productivity in State sales of alcoholic beverages increased 0.2 percent in 1991 as output and input dropped 4.6 and 4.9 percent, respectively. The long-term productivity trend (1967-91) shows an average annual increase of 1.1 percent as output and employment decreased 0.1 and 1.2, respectively. The drop in output and employment reflects decreasing demand for spirits and a shift in several States from government to private sector operations.

Unemployment insurance (SIC 9441 part)

Productivity in State unemployment insurance activities increased 8.2 percent in fiscal 1991 as output increased 16.6 percent while labor input increased 7.7 percent. These statistics are a reflection of the large increase in workload at State unemployment insurance offices during this period; initial claims, persons compensated, and firms taxed to support the program all increased. Over the long term (1964-91), productivity increased at an average annual rate of 1.1 percent, with output increasing at an average annual rate of 1.9 percent and labor increasing at 0.9 percent.

Definitions of functional categories

Audit of operations: Organizations responsible for reviewing, evaluating, and analyzing Federal programs and operations.

Buildings and grounds: Organizations responsible for the construction, maintenance, repair, alteration, services, and security of Federal buildings, installations, or grounds.

Communications: Organizations responsible for processing messages and performing telecommunications services.

Education and training: Organizations responsible for providing general or specialized education or training.

Electric power production and distribution: Organizations responsible for generating, transmitting, or selling electricity.

Equipment maintenance: Organizations responsible for the maintenance and repair of motor vehicles and equipment and the calibration of instruments.

Finance and accounting: Organizations responsible for maintaining accounting records, processing payroll vouchers and invoices, and related activities.

General support services: Organizations performing overall administrative and supportive activities including automatic data processing, internal mail delivery, graphics, and planning.

Information services: Organizations responsible for preparing or distributing statistical, scientific, technical, or other information.

Legal and judicial activities: Organizations responsible for instituting proceedings in a court or administrative tribunal or rendering decisions in a judicial capacity.

Library services: Organizations responsible for providing research and reference services for Federal agencies, Congress, or the public.

Loans and grants: Organizations responsible for issuing research grants, making awards, offering various types of loans, and borrowing funds from the public.

Medical services: Organizations responsible for operating health care facilities and providing medical, hospital, dental, laboratory, or nursing service for disease prevention or treatment.

Military base services: Military organizations responsible

for providing commissary, laundry, dry cleaning, or food services.

Natural resources and environmental management: Organizations responsible for developing or overseeing programs which affect natural resources or the environment.

Personnel investigations: Organizations responsible for conducting personnel security checks or criminal investigations of Federal employees.

Personnel management: Organizations responsible for providing personnel services including recruitment, position classification, employee development, and equal employment opportunity counselling.

Postal service: U.S. Postal Service which delivers mail and provides related services (SIC 4311).

Printing and duplication: Organizations responsible for printing or reproducing reports, manuals, circulars, or other documents.

Procurement: Organizations responsible for purchasing supplies, equipment, or services.

Records management: Organizations responsible for maintaining, classifying, storing, or searching records.

Regulation—compliance and enforcement: Organizations engaged in activities to ensure compliance with established rules and regulations.

Regulation—rulemaking and licensing: Organizations responsible for issuing licenses, permits, or other authorizations in government-controlled activities.

Social services and benefits: Organizations responsible for the payment of benefits or claims, or for improving the welfare of the public or a special group.

Specialized manufacturing: Organizations involved in the production of physical outputs such as helium, munitions, chemicals, and currency.

Supply and inventory control: Organizations responsible for distributing supplies and equipment and for the management of inventories.

Traffic management: Organizations responsible for arranging for the movement of people or cargo.

Transportation: Organizations responsible for moving or assisting in the movement of people or cargo.

Table 132. Federal Government--Total measured portion: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	79.7	79.4	99.6	30.6	38.3
1968	80.6	82.3	102.1	32.1	39.9
1969	82.5	85.0	103.0	34.5	41.8
1970	82.9	85.2	102.8	38.4	46.3
1971	84.2	86.3	102.5	42.8	50.9
1972	84.7	86.5	102.1	46.0	54.2
1973	87.1	87.9	100.9	48.7	55.9
1974	86.6	88.0	101.6	52.7	60.8
1975	87.9	89.5	101.7	57.8	65.7
1976	89.5	90.2	100.8	63.9	71.4
1977	92.1	91.8	99.7	69.6	75.6
1978	93.6	94.0	100.3	74.4	79.4
1979	94.2	94.6	100.4	79.2	84.0
1980	96.3	97.4	101.2	85.7	89.1
1981	98.6	98.8	100.2	93.9	95.3
1982	100.0	100.0	100.0	100.0	100.0
1983	101.5	102.5	101.0	104.6	103.3
1984	101.5	104.7	103.2	109.7	108.0
1985	102.2	107.4	105.1	115.3	112.9
1986	103.8	110.0	105.9	118.8	114.4
1987	104.1	111.6	107.2	123.3	118.5
1988	105.0	112.9	107.6	131.0	124.8
1989	104.9	113.1	107.8	137.2	130.8
1990	107.2	115.7	107.9	145.2	135.4
1991	104.7	113.7	108.6	153.6	146.6
Average annual percent change:					
1967-91	1.1	1.5	.4	7.0	5.7
1982-91	.5	1.4	.9	4.9	4.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 193. Federal Government--Audit of operations: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	84.0	115.3	137.2	32.7	38.9
1968	88.8	126.5	142.4	34.7	39.1
1969	96.6	131.2	135.9	37.1	38.4
1970	96.8	122.5	126.6	43.0	44.4
1971	84.7	98.3	116.1	46.9	55.4
1972	89.4	96.3	107.6	50.6	56.6
1973	95.6	101.5	106.2	52.2	54.6
1974	101.6	108.6	107.0	55.1	54.3
1975	106.3	116.0	109.1	57.0	53.6
1976	104.1	107.4	103.2	62.3	59.9
1977	107.2	101.8	94.9	66.9	62.4
1978	110.0	106.7	97.0	72.7	66.0
1979	108.1	103.9	96.1	77.2	71.4
1980	104.7	103.2	98.6	78.5	75.0
1981	104.0	104.8	100.7	84.4	81.2
1982	100.0	100.0	100.0	100.0	100.0
1983	102.1	103.8	101.6	106.8	104.6
1984	105.0	107.2	102.1	111.2	106.0
1985	107.9	110.3	102.3	115.4	107.0
1986	100.4	103.1	102.7	119.7	119.2
1987	90.6	89.3	98.6	126.2	139.4
1988	91.8	95.4	103.9	133.6	145.5
1989	96.6	103.4	107.1	126.7	131.2
1990	106.2	115.2	106.5	134.5	126.7
1991	117.3	119.1	101.5	139.5	118.9
Average annual percent change:					
1967-91	1.4	.1	-1.2	6.2	4.8
1982-91	1.8	2.0	.2	3.8	1.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 194. Federal Government-Buildings and grounds: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	62.5	84.7	135.6	30.7	49.2
1968	61.5	84.1	136.6	31.9	51.9
1969	62.0	82.1	132.3	35.3	57.0
1970	60.8	79.9	131.4	39.8	65.4
1971	60.1	81.0	134.9	43.2	71.9
1972	62.2	82.0	131.8	48.4	77.8
1973	60.6	76.0	125.4	52.3	86.2
1974	63.7	77.9	122.2	57.8	90.7
1975	72.2	89.7	124.1	61.5	85.2
1976	74.1	89.0	120.0	68.3	92.2
1977	78.7	86.8	110.2	76.7	97.4
1978	80.8	89.0	110.2	78.9	97.7
1979	85.8	92.6	107.9	84.9	99.0
1980	86.4	94.9	109.8	86.5	100.1
1981	96.1	100.6	104.7	96.5	100.4
1982	100.0	100.0	100.0	100.0	100.0
1983	100.7	99.2	98.5	95.7	95.0
1984	102.7	101.0	98.3	97.4	94.9
1985	101.4	100.6	99.2	99.4	98.0
1986	96.4	96.2	90.7	102.1	105.8
1987	95.9	94.9	98.9	100.0	104.3
1988	92.2	90.7	98.4	103.8	112.5
1989	93.8	96.8	103.2	107.4	114.4
1990	96.3	93.9	97.5	113.6	118.0
1991	95.1	91.5	96.3	123.3	129.6
Average annual percent change:					
1967-91	1.8	.3	-1.4	6.0	4.1
1982-91	-8	-1.0	-4	2.4	2.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 195. Federal Government-Communications: Indexes of output per employee year and related data, 1973-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1973	38.2	41.2	108.0	49.1	128.6
1974	40.7	46.1	113.3	52.7	129.4
1975	45.0	49.7	110.5	57.5	127.8
1976	48.1	53.7	111.8	61.8	128.6
1977	54.6	59.9	109.8	64.2	117.7
1978	60.6	66.8	110.1	68.9	113.6
1979	61.5	68.0	110.5	73.6	118.6
1980	79.1	85.5	108.1	76.2	96.4
1981	97.3	100.3	103.1	87.6	90.0
1982	100.0	100.0	100.0	100.0	100.0
1983	107.0	111.2	103.9	100.4	93.9
1984	116.7	125.3	107.4	104.5	89.6
1985	123.4	134.2	108.8	109.7	88.9
1986	128.9	139.5	108.2	118.5	92.0
1987	135.0	147.0	108.9	121.6	90.1
1988	141.4	155.6	110.1	128.6	91.0
1989	136.3	164.5	120.7	159.2	116.8
1990	106.1	162.6	153.3	181.9	152.6
1991	132.6	205.6	155.0	176.8	133.3
Average annual percent change:					
1973-91	7.2	9.3	2.0	7.4	.2
1982-91	3.2	6.3	5.0	6.5	3.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 196. Federal Government-Education and training: Indexes of output per employee year and related data, 1968-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1968	81.9	92.5	113.0	34.6	42.3
1969	81.9	101.3	123.6	37.5	45.7
1970	74.6	102.7	137.6	39.8	53.4
1971	75.2	102.7	136.7	43.7	58.1
1972	77.7	106.2	136.7	50.4	64.8
1973	75.9	102.9	135.6	51.9	68.4
1974	74.7	94.4	126.3	56.4	75.5
1975	72.4	89.6	123.7	60.2	83.1
1976	79.2	87.9	111.0	64.2	81.1
1977	89.4	93.9	105.0	70.5	78.8
1978	86.3	89.5	101.4	73.0	82.7
1979	93.8	89.7	95.6	76.7	81.8
1980	94.3	93.1	98.7	83.4	88.5
1981	103.6	94.5	91.2	93.6	90.4
1982	100.0	100.0	100.0	100.0	100.0
1983	97.7	98.6	100.9	105.8	108.3
1984	96.7	99.9	103.3	110.9	114.7
1985	97.1	102.4	105.4	115.9	119.3
1986	97.7	104.2	106.6	122.3	125.2
1987	96.5	104.9	108.7	124.3	128.8
1988	99.3	100.7	101.7	128.1	129.3
1989	98.0	97.5	99.6	131.5	134.2
1990	104.1	100.3	96.3	137.9	132.4
1991	90.0	82.7	91.9	143.1	159.0
Average annual percent change:					
1968-91	.4	-.5	-.9	6.4	5.9
1982-91	-1.2	-2.1	-.9	4.1	5.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 197. Federal Government-Electric power production and distribution: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	136.3	50.6	36.6	37.8	27.3
1968	150.9	64.4	42.7	40.2	26.6
1969	164.1	72.6	44.3	43.5	26.5
1970	176.9	84.1	47.5	46.8	26.4
1971	171.0	95.5	55.9	51.8	30.3
1972	181.6	106.2	59.6	56.0	30.8
1973	179.2	99.2	55.4	59.1	33.0
1974	175.6	97.4	55.5	62.2	35.4
1975	172.1	104.2	60.5	66.9	38.9
1976	165.6	113.4	68.4	77.0	46.5
1977	159.1	130.2	81.8	82.3	51.7
1978	162.7	160.6	96.7	88.6	54.5
1979	144.3	160.7	111.4	91.1	65.9
1980	146.7	166.2	113.3	99.3	67.7
1981	136.2	154.1	113.1	99.2	72.6
1982	100.0	100.0	100.0	100.0	100.0
1983	124.0	106.5	87.5	109.4	88.2
1984	106.9	85.8	80.2	116.9	109.3
1985	93.1	73.5	78.9	120.8	129.7
1986	86.7	58.8	67.8	135.5	156.3
1987	70.4	49.7	70.5	142.7	202.6
1988	64.2	49.1	76.6	144.6	225.5
1989	68.3	56.6	64.1	152.8	173.1
1990	93.5	58.7	62.8	158.8	169.8
1991	97.4	59.7	61.3	174.1	176.7
Average annual percent change:					
1967-91	-1.4	.7	2.2	6.6	8.1
1982-91	-3	-5.6	-5.3	6.4	6.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 198. Federal Government—Equipment maintenance: Indexes of output per employee year and related data, 1968-91
(1962 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1962	86.3	130.5	151.2	32.3	37.4
1969	90.0	126.6	150.9	38.2	42.4
1970	88.5	118.2	133.6	41.4	46.8
1971	95.0	113.3	119.3	46.2	48.6
1972	94.0	114.6	121.9	46.6	49.6
1973	89.0	126.9	119.0	49.1	55.2
1974	91.1	102.7	112.8	53.2	58.4
1975	91.5	103.0	112.6	58.1	63.5
1976	91.9	99.7	106.5	63.2	68.8
1977	90.5	95.6	105.6	67.6	74.8
1978	94.2	99.6	105.7	73.9	78.4
1979	95.1	98.5	103.5	77.0	80.9
1980	96.2	95.0	98.8	85.1	88.7
1981	95.8	99.4	99.6	96.8	97.0
1982	100.0	100.0	100.0	100.0	100.0
1983	100.0	101.4	101.4	105.9	105.9
1984	104.5	106.2	101.7	114.1	109.1
1985	106.0	106.3	102.2	118.2	111.5
1986	106.1	110.5	102.2	122.7	113.5
1987	107.9	106.4	90.6	126.3	117.1
1988	112.7	102.2	90.6	131.5	116.7
1989	111.9	105.2	94.0	135.6	121.2
1990	116.3	107.5	92.5	141.3	121.5
1991	109.6	96.1	87.7	146.5	123.6
Average annual percent change:					
1968-91	1.0	-1.3	-2.3	6.8	5.7
1982-91	1.0	-4	-1.5	4.3	3.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 199. Federal Government—Finance and accounting: Indexes of output per employee year and related data, 1967-91
(1962 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	51.9	70.4	135.5	33.9	65.2
1968	53.3	72.8	136.6	35.8	67.1
1969	53.8	75.0	139.4	37.4	69.5
1970	55.5	75.1	135.2	42.4	76.3
1971	56.3	75.0	133.1	45.7	81.2
1972	55.4	74.3	134.2	49.0	88.4
1973	54.7	72.6	132.7	51.6	94.2
1974	56.6	71.1	125.6	58.2	99.2
1975	61.4	73.3	119.3	60.8	98.9
1976	65.5	75.5	115.3	65.5	100.0
1977	66.3	75.6	114.1	69.0	104.1
1978	68.4	74.3	108.7	75.6	110.6
1979	71.4	76.0	106.5	81.1	113.6
1980	80.5	88.0	109.4	87.6	108.9
1981	84.8	91.8	108.3	93.8	110.7
1982	100.0	100.0	100.0	100.0	100.0
1983	110.7	108.0	97.5	106.5	96.2
1984	108.5	110.0	101.4	113.5	104.5
1985	108.3	112.1	103.6	118.1	109.1
1986	112.0	117.8	105.2	119.6	106.8
1987	115.5	119.7	103.6	125.2	108.4
1988	118.3	118.8	100.4	130.2	110.1
1989	118.2	118.6	100.3	135.8	114.9
1990	121.9	124.7	102.2	132.2	108.4
1991	132.9	130.6	96.3	150.1	112.9
Average annual percent change:					
1967-91	4.0	2.6	-1.3	6.4	2.3
1982-91	3.2	3.0	-2	4.6	1.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 200. Federal Government-General support services: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	40.4	32.8	80.5	37.4	92.5
1968	44.4	36.8	82.9	38.6	97.0
1969	44.8	38.3	85.5	41.2	92.0
1970	49.8	41.8	84.0	45.8	92.0
1971	51.6	45.2	87.5	48.0	93.0
1972	56.3	49.5	85.0	54.8	93.8
1973	60.9	52.0	85.4	57.3	94.0
1974	62.6	55.5	88.7	66.0	105.6
1975	56.3	54.4	96.6	65.8	116.9
1976	58.2	56.4	96.9	67.9	116.7
1977	61.7	61.3	99.3	74.6	120.8
1978	64.0	67.4	105.3	74.2	118.0
1979	67.9	67.9	99.9	77.8	114.5
1980	70.6	72.3	102.4	82.7	117.2
1981	79.9	78.0	97.7	82.4	115.7
1982	100.0	100.0	100.0	100.0	100.0
1983	97.7	100.1	102.5	105.0	107.5
1984	91.8	102.6	111.8	109.8	119.6
1985	84.0	103.2	122.7	113.8	135.4
1986	88.1	106.7	121.1	119.5	135.7
1987	89.0	106.6	119.8	116.8	131.2
1988	83.6	108.5	129.7	120.7	144.3
1989	91.3	122.3	134.0	120.9	139.4
1990	87.3	126.2	144.5	123.7	141.7
1991	86.0	118.7	138.0	132.4	154.0
Average annual percent change:					
1967-91	3.2	5.5	2.3	5.4	2.1
1982-91	-1.7	1.9	3.8	3.2	4.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 201. Federal Government-Information services: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	89.8	83.4	93.1	40.1	44.7
1968	92.1	86.8	94.2	42.2	45.8
1969	95.0	90.0	94.7	44.2	46.5
1970	93.4	89.6	95.8	50.5	54.1
1971	93.8	92.7	98.8	53.1	56.6
1972	96.1	95.7	99.5	56.0	58.3
1973	89.5	96.3	107.7	55.6	62.1
1974	92.1	98.4	106.8	59.5	64.6
1975	96.9	103.4	106.7	62.6	64.6
1976	94.5	102.3	108.3	66.2	70.0
1977	93.7	99.8	106.5	70.5	75.3
1978	95.0	96.2	103.3	76.8	80.8
1979	97.1	99.9	102.9	80.6	83.0
1980	97.1	100.5	103.5	87.3	89.9
1981	97.8	103.1	105.4	94.6	96.7
1982	100.0	100.0	100.0	100.0	100.0
1983	106.9	104.0	97.3	105.1	98.3
1984	111.3	106.9	98.1	111.6	100.3
1985	117.3	113.5	96.8	116.8	99.6
1986	118.6	114.0	96.1	120.2	101.4
1987	122.1	115.3	94.4	124.0	101.6
1988	121.6	114.7	94.3	132.1	108.7
1989	126.9	118.9	93.8	137.9	108.7
1990	130.3	121.1	93.0	143.2	109.9
1991	137.4	128.0	93.2	151.0	109.9
Average annual percent change:					
1967-91	1.8	1.8	.0	5.7	3.8
1982-91	3.6	2.8	-.8	4.7	1.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 202. Federal Government—Legal and judicial activities: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	92.7	55.8	60.2	37.7	40.7
1968	91.9	57.0	62.0	39.1	42.6
1969	94.0	57.2	60.8	43.4	46.2
1970	98.7	59.7	60.5	49.5	50.2
1971	105.7	64.4	60.9	53.6	50.7
1972	107.6	68.8	63.9	55.7	51.8
1973	104.7	70.6	67.4	56.6	54.1
1974	96.7	70.0	72.4	57.7	59.7
1975	97.7	75.2	77.0	58.3	59.7
1976	95.8	80.1	83.6	60.8	63.4
1977	91.9	80.5	87.7	67.3	73.3
1978	89.8	81.5	90.8	73.4	81.8
1979	93.8	85.7	91.4	77.4	82.6
1980	93.2	91.9	98.6	83.7	89.8
1981	95.9	96.3	100.4	90.6	94.5
1982	100.0	100.0	100.0	100.0	100.0
1983	102.6	105.9	103.2	104.7	102.0
1984	101.1	108.2	107.0	110.3	109.1
1985	103.9	115.1	110.8	114.6	110.3
1986	104.2	117.2	112.4	119.0	114.2
1987	104.4	120.2	115.1	124.3	119.0
1988	105.0	128.4	122.3	128.7	122.5
1989	104.0	129.8	124.9	136.1	130.9
1990	100.2	131.5	131.2	142.8	142.4
1991	96.5	136.1	141.1	155.7	161.4
Average annual percent change:					
1967-91	.2	3.8	3.6	6.1	5.9
1982-91	-.4	3.5	3.9	5.0	5.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 203. Federal Government—Library services: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	52.7	35.0	66.3	31.1	59.0
1968	55.4	42.4	76.6	32.1	58.0
1969	59.8	45.4	75.9	36.4	60.8
1970	60.1	45.6	75.9	41.2	68.5
1971	61.1	46.9	76.8	44.6	73.0
1972	61.5	48.6	79.1	48.6	79.1
1973	64.7	54.0	83.4	50.8	78.2
1974	69.4	59.2	85.4	54.9	79.0
1975	77.9	68.3	87.7	58.3	74.8
1976	86.5	78.3	90.8	61.8	71.4
1977	93.3	89.3	95.7	69.0	73.9
1978	90.0	88.9	98.9	76.6	85.2
1979	93.7	94.4	100.8	78.9	84.2
1980	99.3	99.3	100.0	87.8	88.2
1981	104.0	101.8	97.9	96.4	92.7
1982	100.0	100.0	100.0	100.0	100.0
1983	102.7	101.8	99.1	108.6	105.7
1984	110.6	106.4	96.1	112.4	101.6
1985	112.8	108.6	96.3	120.7	107.1
1986	122.1	111.3	91.2	125.4	102.8
1987	120.0	112.9	94.0	125.1	104.2
1988	125.2	115.3	92.1	133.9	107.0
1989	128.1	116.5	90.9	139.6	109.0
1990	138.9	123.1	88.6	150.4	108.3
1991	130.4	124.3	95.3	151.3	116.0
Average annual percent change:					
1967-91	3.8	5.4	1.5	6.8	2.9
1982-91	3.0	2.4	-.5	4.7	1.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 204. Federal Government-Loans and grants: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	60.5	57.8	95.4	31.9	52.6
1968	63.9	62.7	98.0	33.9	53.1
1969	66.6	64.4	96.6	36.8	55.2
1970	73.9	73.4	99.3	41.8	56.6
1971	81.9	87.1	106.3	45.1	55.0
1972	81.0	89.4	110.4	47.5	58.6
1973	82.1	89.3	108.7	50.5	61.6
1974	83.5	83.9	100.4	55.8	66.8
1975	86.9	86.1	99.0	59.2	68.1
1976	91.5	92.1	100.7	63.1	69.0
1977	95.5	100.9	105.6	68.8	72.1
1978	94.5	106.4	112.6	71.8	75.9
1979	102.7	118.2	115.1	73.9	71.9
1980	100.3	116.1	115.7	81.7	81.4
1981	105.3	118.0	112.0	92.5	87.8
1982	100.0	100.0	100.0	100.0	100.0
1983	112.0	111.5	99.6	105.0	93.7
1984	107.1	109.0	101.8	107.4	100.3
1985	116.9	115.1	98.5	113.5	97.2
1986	117.1	113.4	96.8	115.6	98.7
1987	107.7	103.5	96.1	120.5	111.9
1988	115.9	111.7	96.3	125.2	108.0
1989	106.5	102.0	95.7	129.5	121.5
1990	120.1	118.1	98.3	136.3	113.5
1991	115.8	112.7	97.3	141.5	122.2
Average annual percent change:					
1967-91	2.7	2.8	.1	6.4	3.6
1982-91	1.6	1.3	-.3	3.9	2.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 205. Federal Government-Medical services: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	96.6	74.1	76.8	32.1	33.2
1968	98.4	77.7	78.9	33.6	34.2
1969	98.7	78.5	79.6	35.2	35.7
1970	97.9	77.5	79.2	40.0	40.9
1971	97.2	77.7	79.9	43.7	45.0
1972	92.1	76.7	83.2	47.8	51.9
1973	95.1	82.8	87.1	50.6	53.2
1974	94.9	83.7	88.1	54.1	57.0
1975	96.6	86.4	89.4	58.9	60.9
1976	98.2	89.7	91.3	65.7	66.9
1977	98.1	90.5	92.2	68.0	69.3
1978	96.3	90.7	94.2	71.3	74.1
1979	96.5	91.5	94.8	75.9	78.6
1980	98.6	94.1	95.5	82.1	83.3
1981	98.9	94.6	95.6	92.9	93.9
1982	100.0	100.0	100.0	100.0	100.0
1983	102.0	103.9	101.9	104.4	102.3
1984	101.5	104.5	103.0	108.4	106.8
1985	101.6	105.7	104.0	112.2	110.4
1986	103.5	108.3	104.7	117.9	114.0
1987	104.1	110.3	106.0	125.7	120.7
1988	108.3	112.8	104.2	132.5	122.4
1989	107.0	110.7	103.4	139.6	130.4
1990	104.8	110.9	105.8	147.1	140.4
1991	98.2	108.2	110.2	156.4	159.2
Average annual percent change:					
1967-91	.1	1.6	1.5	6.8	6.8
1982-91	-.2	.9	1.1	5.1	5.3

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 206. Federal Government-Military base services: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	91.6	159.5	174.2	32.5	35.5
1968	95.5	154.8	162.1	36.2	37.9
1969	95.8	148.7	155.3	39.6	41.3
1970	92.9	142.6	153.4	46.2	49.7
1971	85.6	130.5	159.5	48.1	56.2
1972	86.6	135.3	156.3	48.1	55.6
1973	81.9	118.2	144.4	51.9	63.3
1974	82.9	110.3	133.2	52.2	63.0
1975	87.5	110.7	126.6	58.9	67.3
1976	91.4	107.7	117.9	64.5	70.6
1977	91.5	101.4	110.8	73.4	80.2
1978	91.8	97.9	106.6	75.4	82.1
1979	92.8	96.3	103.8	77.8	83.9
1980	93.5	97.4	104.2	83.0	88.7
1981	96.0	99.0	103.1	92.3	96.2
1982	100.0	100.0	100.0	100.0	100.0
1983	98.7	100.3	101.6	100.7	102.1
1984	90.9	97.2	106.9	102.0	112.2
1985	91.8	92.1	100.4	112.9	123.0
1986	98.7	97.1	98.4	118.4	119.9
1987	100.8	94.9	94.2	122.3	121.4
1988	97.8	92.8	94.8	124.7	127.5
1989	100.1	92.1	92.0	135.4	135.2
1990	96.2	91.1	94.7	140.7	146.3
1991	102.0	93.2	91.4	141.1	138.3
Average annual percent change:					
1967-91	.5	-2.2	-2.7	6.3	5.8
1982-91	.2	-.8	-1.0	3.9	3.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 207. Federal Government-Natural resources and environmental management: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	80.6	82.8	102.7	34.2	42.5
1968	81.6	83.0	101.7	36.4	44.6
1969	81.0	79.9	98.6	39.3	48.6
1970	81.7	77.2	94.5	44.8	54.8
1971	86.8	79.4	91.5	49.0	56.4
1972	88.8	82.5	92.9	51.2	57.6
1973	90.4	81.9	90.6	54.4	60.2
1974	89.3	80.5	90.2	57.3	64.1
1975	88.0	81.8	92.9	60.0	68.2
1976	89.2	85.4	95.7	64.7	72.5
1977	89.3	88.0	98.5	68.2	76.3
1978	93.9	94.7	100.8	72.1	76.8
1979	91.3	92.6	101.4	76.9	84.2
1980	91.1	92.4	101.4	88.1	96.6
1981	91.8	94.4	102.9	93.1	101.4
1982	100.0	100.0	100.0	100.0	100.0
1983	100.7	100.3	99.6	107.4	106.7
1984	103.3	101.6	98.4	113.9	110.2
1985	106.6	100.9	94.7	121.7	114.1
1986	107.6	99.1	92.1	121.4	112.8
1987	112.3	100.6	89.5	125.4	111.6
1988	113.2	105.1	92.9	134.8	119.1
1989	110.2	99.1	89.9	136.0	123.4
1990	113.8	106.0	93.1	139.4	122.5
1991	112.5	104.9	93.3	146.2	130.0
Average annual percent change:					
1967-91	1.4	1.0	-.4	6.2	4.8
1982-91	1.3	.5	-.8	4.3	3.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 208. Federal Government-Personnel investigations: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	65.1	48.2	74.0	35.6	54.7
1968	70.8	51.3	72.4	40.0	56.4
1969	66.2	49.1	74.2	42.8	64.6
1970	65.2	44.4	68.1	50.5	77.5
1971	73.6	45.3	61.6	51.0	69.3
1972	74.1	41.6	56.2	56.9	76.8
1973	76.8	40.2	52.4	60.5	78.7
1974	79.3	134.2	169.4	55.6	70.2
1975	83.9	141.0	168.2	61.2	72.9
1976	79.8	118.2	148.0	66.8	83.6
1977	95.7	123.8	129.3	72.5	75.8
1978	98.8	129.5	131.0	76.5	77.4
1979	104.0	81.1	78.0	85.5	82.2
1980	103.0	80.4	78.0	93.8	91.0
1981	105.0	88.6	84.4	101.2	96.3
1982	100.0	100.0	100.0	100.0	100.0
1983	95.1	102.8	108.1	113.5	119.3
1984	97.8	107.5	109.9	114.4	117.0
1985	101.0	118.2	117.0	120.4	119.1
1986	94.4	118.4	125.4	121.3	128.5
1987	102.3	130.7	127.7	128.3	125.4
1988	109.3	134.4	123.0	146.5	134.1
1989	101.5	133.6	131.7	150.2	147.9
1990	121.5	178.6	147.0	158.2	130.2
1991	119.7	179.8	150.2	171.1	142.9
Average annual percent change:					
1967-91	2.6	5.6	3.0	6.8	4.1
1982-91	2.0	6.7	4.6	6.1	4.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 209. Federal Government-Personnel management: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	75.4	44.8	59.5	43.1	57.1
1968	80.5	59.2	73.5	44.7	55.5
1969	76.4	56.1	73.4	48.0	62.9
1970	78.5	56.3	71.7	54.7	69.7
1971	89.5	69.4	77.5	56.8	63.5
1972	88.9	68.0	76.5	58.8	66.1
1973	87.5	73.1	83.6	58.9	67.3
1974	93.5	85.8	91.7	62.3	66.6
1975	89.2	88.4	99.0	65.4	73.3
1976	87.2	86.6	99.4	67.7	77.6
1977	93.7	94.2	100.5	74.3	79.3
1978	90.4	93.3	103.1	79.8	88.2
1979	101.9	22.6	22.2	95.1	93.3
1980	93.6	105.4	112.7	77.9	83.2
1981	91.2	98.2	107.7	92.8	101.8
1982	100.0	100.0	100.0	100.0	100.0
1983	88.4	97.1	109.9	105.1	118.9
1984	95.4	99.0	103.7	109.9	115.1
1985	93.8	99.4	106.0	114.0	121.8
1986	94.3	102.2	108.4	118.2	125.3
1987	92.2	100.4	108.9	123.8	134.3
1988	93.4	98.5	105.5	127.0	136.0
1989	93.8	96.2	102.6	131.9	140.8
1990	86.0	92.3	107.4	138.2	180.7
1991	81.9	85.3	104.1	145.2	177.1
Average annual percent change:					
1967-91	.3	2.7	2.4	5.2	4.8
1982-91	-2.2	-1.7	.5	4.2	6.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 210. Federal Government-Postal service (SIC 4311): Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	84.5	83.9	99.3	27.2	32.2
1968	83.0	85.1	102.4	28.5	34.3
1969	83.5	87.7	104.9	30.6	36.6
1970	84.0	89.6	106.7	33.2	39.6
1971	85.8	91.3	106.4	38.1	44.4
1972	86.7	90.2	104.0	41.0	47.3
1973	91.8	92.3	100.6	44.0	47.9
1974	89.4	92.5	103.5	48.8	54.6
1975	89.3	91.0	101.9	55.5	62.2
1976	89.6	90.0	100.5	62.5	69.7
1977	93.5	91.7	98.1	70.0	74.9
1978	96.5	93.8	97.3	75.5	78.3
1979	95.3	94.3	98.9	80.3	84.2
1980	98.2	98.1	99.8	86.8	88.3
1981	99.5	99.5	100.0	94.4	94.8
1982	100.0	100.0	100.0	100.0	100.0
1983	100.4	101.7	101.2	103.8	103.4
1984	101.7	108.4	106.6	108.9	107.0
1985	102.0	113.3	111.1	114.8	112.5
1986	103.6	118.6	114.4	117.0	112.9
1987	103.7	122.7	118.3	120.5	116.2
1988	103.6	126.3	122.0	130.8	126.3
1989	103.4	126.9	122.7	138.1	133.5
1990	108.0	131.6	121.9	147.0	136.2
1991	107.6	131.3	122.0	154.9	143.9
Average annual percent change:					
1967-91	1.0	1.9	.9	7.5	6.4
1982-91	.8	3.1	2.2	5.0	4.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 211. Federal Government-Printing and duplication: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	110.3	158.7	143.8	31.7	28.7
1968	109.2	156.9	143.6	33.3	30.5
1969	105.5	151.8	143.8	35.2	33.3
1970	104.9	150.9	143.9	39.1	37.3
1971	96.8	133.1	137.5	43.0	44.5
1972	95.3	129.0	135.4	47.8	50.2
1973	97.5	133.4	136.8	49.6	50.8
1974	94.1	126.5	134.4	54.4	57.8
1975	93.1	120.5	129.5	60.4	64.9
1976	94.9	118.8	125.2	68.9	72.6
1977	94.5	111.4	117.9	75.4	79.8
1978	92.2	105.2	114.1	80.6	87.3
1979	98.0	107.7	109.9	86.7	88.4
1980	102.4	107.8	105.3	91.8	89.7
1981	97.0	103.4	106.6	93.1	95.9
1982	100.0	100.0	100.0	100.0	100.0
1983	106.9	107.8	100.8	105.5	98.6
1984	113.8	114.9	101.0	108.4	95.2
1985	115.4	114.4	99.1	113.2	98.0
1986	118.2	112.6	95.3	118.9	100.6
1987	119.9	109.9	91.7	122.4	102.1
1988	125.1	112.8	90.2	124.9	99.8
1989	122.8	107.1	87.2	129.8	105.7
1990	123.7	104.8	84.7	135.9	109.9
1991	111.0	91.1	82.0	141.4	127.3
Average annual percent change:					
1967-91	.0	-2.3	-2.3	6.4	6.4
1982-91	1.2	-1.0	-2.2	3.9	2.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 212. Federal Government-Procurement: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	70.9	87.2	122.9	41.6	58.6
1968	68.6	82.1	119.6	44.9	65.4
1969	67.5	79.9	118.3	49.2	72.8
1970	61.1	67.3	110.1	55.5	90.8
1971	67.4	65.8	97.6	60.6	89.9
1972	67.8	66.4	98.0	55.1	81.3
1973	70.0	67.9	97.0	59.6	85.1
1974	74.5	69.3	93.1	61.7	82.8
1975	76.5	70.5	92.1	66.0	86.2
1976	79.3	71.0	89.5	69.9	88.1
1977	79.8	74.3	93.1	73.1	91.6
1978	86.8	80.8	93.1	78.7	90.6
1979	92.1	83.1	90.2	82.5	89.6
1980	96.6	89.5	92.6	86.9	90.0
1981	102.0	97.3	95.4	95.4	93.5
1982	100.0	100.0	100.0	100.0	100.0
1983	99.5	102.8	103.3	105.6	106.1
1984	101.5	106.0	104.4	109.2	107.6
1985	97.8	108.2	110.6	113.4	116.0
1986	95.4	111.3	116.7	117.8	123.4
1987	96.9	110.6	114.1	120.5	124.3
1988	93.5	108.5	116.0	123.3	131.9
1989	88.0	103.8	118.0	125.4	142.5
1990	83.2	100.3	120.6	130.6	157.0
1991	83.0	100.7	121.3	137.3	165.3
Average annual percent change:					
1967-91	.7	.6	-.1	5.1	4.4
1982-91	-2.0	.1	2.2	3.6	5.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 213. Federal Government-Records management: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	61.2	95.9	156.6	36.6	59.8
1968	60.0	95.8	159.6	36.9	61.5
1969	65.7	103.1	156.8	41.0	62.4
1970	64.4	106.3	164.9	46.2	71.7
1971	62.3	103.8	166.4	50.6	81.2
1972	69.3	105.5	152.2	56.9	82.0
1973	68.5	105.8	154.4	57.9	84.6
1974	66.8	84.4	126.2	64.2	96.1
1975	72.4	78.2	108.0	67.3	93.0
1976	78.3	85.4	109.0	74.3	94.9
1977	83.3	91.6	109.9	78.9	94.7
1978	86.4	93.6	108.3	85.0	98.3
1979	91.6	102.3	111.6	89.1	97.3
1980	93.0	105.3	113.2	91.1	97.9
1981	94.8	100.6	106.1	91.3	96.2
1982	100.0	100.0	100.0	100.0	100.0
1983	101.6	100.9	99.3	100.8	99.2
1984	104.3	103.1	98.8	106.5	102.1
1985	101.1	101.9	100.8	116.2	114.9
1986	107.0	109.7	102.5	116.3	110.5
1987	104.4	103.0	98.7	127.8	122.5
1988	99.6	96.0	96.4	129.8	130.3
1989	98.6	94.4	95.7	133.7	135.6
1990	112.3	99.7	88.7	145.0	129.1
1991	109.3	95.4	87.2	156.3	142.9
Average annual percent change:					
1967-91	2.4	.0	-2.4	6.2	3.7
1982-91	1.0	-.5	-1.5	5.1	4.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 214. Federal Government-Regulation compliance and enforcement: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	68.1	53.1	78.0	35.4	51.9
1968	70.0	55.9	79.8	36.6	52.3
1969	72.2	56.9	78.9	39.6	54.9
1970	74.2	59.3	79.8	44.7	60.2
1971	75.6	62.4	82.5	47.5	62.9
1972	78.1	65.0	83.2	50.4	64.5
1973	80.1	70.4	87.9	51.8	64.7
1974	80.9	74.3	91.8	55.4	68.5
1975	80.2	78.4	97.7	59.1	73.7
1976	82.7	82.1	99.3	63.9	77.3
1977	84.3	85.2	101.1	68.4	81.1
1978	85.4	88.6	103.8	74.5	87.2
1979	88.1	94.0	106.7	79.0	89.6
1980	90.8	97.4	107.3	85.3	94.0
1981	94.9	98.9	104.3	92.1	97.0
1982	100.0	100.0	100.0	100.0	100.0
1983	106.8	107.3	100.5	107.1	100.3
1984	107.0	109.8	102.6	111.4	104.1
1985	109.8	117.1	106.6	118.7	108.1
1986	118.6	127.3	107.3	120.0	101.2
1987	115.3	130.6	113.3	125.6	109.0
1988	110.2	136.8	124.1	130.4	118.4
1989	111.1	142.7	128.4	135.1	121.5
1990	111.4	144.0	129.2	142.7	128.1
1991	108.5	144.6	133.2	152.3	140.4
Average annual percent change:					
1967-91	2.0	4.3	2.3	6.3	4.2
1982-91	.9	4.2	3.2	4.8	3.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 215. Federal Government-Regulation rulemaking and licensing: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	58.1	44.7	76.9	34.0	58.5
1968	60.6	47.7	78.7	35.5	58.5
1969	63.4	48.4	76.4	38.7	61.1
1970	66.6	51.2	76.9	44.7	67.1
1971	69.9	54.9	78.5	47.3	67.6
1972	70.4	55.7	79.1	49.1	69.7
1973	72.8	61.0	83.8	50.9	69.9
1974	71.2	61.9	87.0	54.1	76.0
1975	71.2	63.9	89.8	56.9	79.9
1976	71.9	64.4	89.7	60.8	84.6
1977	76.1	69.4	91.2	66.8	87.9
1978	70.9	74.9	105.7	67.5	95.2
1979	72.7	74.9	103.0	72.5	99.7
1980	83.3	87.7	105.3	79.8	95.8
1981	92.6	97.2	105.0	88.4	95.5
1982	100.0	100.0	100.0	100.0	100.0
1983	106.0	111.5	105.2	104.5	98.6
1984	111.1	121.1	109.0	109.5	98.5
1985	116.9	128.3	109.7	112.9	96.5
1986	114.8	125.5	109.3	113.1	98.5
1987	117.8	128.1	108.8	119.0	101.0
1988	117.7	130.4	110.8	121.5	103.2
1989	116.7	134.0	114.8	132.3	113.3
1990	117.6	137.8	117.2	144.9	123.2
1991	119.9	143.6	119.8	154.3	128.7
Average annual percent change:					
1967-91	3.1	5.0	1.9	6.5	3.3
1982-91	2.0	4.1	2.0	4.9	2.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 216. Federal Government-Social services and benefits: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	73.4	49.3	67.2	34.4	46.8
1968	73.7	52.2	70.9	35.8	48.6
1969	76.2	54.5	71.5	38.4	50.4
1970	79.4	56.3	71.0	44.2	55.7
1971	84.0	61.7	73.4	48.0	57.1
1972	85.4	64.4	75.4	51.0	59.7
1973	89.2	68.5	76.8	53.9	60.4
1974	87.6	79.3	90.4	54.7	62.4
1975	90.1	90.0	99.9	57.7	64.1
1976	93.9	96.9	103.2	62.6	66.7
1977	97.7	101.7	104.1	68.2	69.9
1978	97.1	98.6	101.6	74.5	76.7
1979	100.1	102.4	102.4	80.1	80.0
1980	98.7	99.6	100.9	86.7	87.8
1981	99.7	98.6	98.9	94.3	94.5
1982	100.0	100.0	100.0	100.0	100.0
1983	107.2	107.8	100.6	106.8	99.7
1984	107.5	105.4	98.0	111.7	103.9
1985	115.7	108.5	93.8	117.9	101.9
1986	111.9	101.6	90.7	121.0	108.1
1987	117.5	100.5	85.6	127.6	108.6
1988	121.6	99.9	82.1	136.1	111.9
1989	125.9	101.2	80.4	143.9	114.3
1990	123.9	97.8	78.9	151.1	121.9
1991	121.7	98.0	80.5	159.7	131.2
Average annual percent change:					
1967-91	2.1	2.9	.8	6.6	4.4
1982-91	2.2	-2	-2.4	5.3	3.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 217. Federal Government-Specialized manufacturing: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	58.8	90.0	153.0	30.1	51.2
1968	63.9	92.0	144.1	32.5	50.9
1969	65.4	95.6	146.2	34.5	52.7
1970	69.5	97.2	139.9	37.8	54.4
1971	76.7	104.2	135.8	41.2	53.7
1972	72.4	100.8	139.1	43.6	60.2
1973	71.1	106.0	149.1	47.9	67.4
1974	70.7	95.1	134.4	52.3	73.9
1975	70.1	88.1	125.7	57.1	81.4
1976	73.3	94.5	128.8	61.2	83.4
1977	75.0	83.7	111.7	68.9	91.9
1978	79.5	86.4	108.7	73.0	91.9
1979	89.4	90.4	101.1	78.9	88.3
1980	89.7	92.2	102.8	88.1	98.2
1981	106.3	102.0	95.9	92.5	87.0
1982	100.0	100.0	100.0	100.0	100.0
1983	103.5	102.4	99.0	101.9	98.4
1984	107.8	107.3	99.5	103.8	96.2
1985	110.1	109.0	98.9	110.1	99.9
1986	111.8	103.9	92.9	111.4	99.6
1987	109.6	103.9	94.8	115.1	105.1
1988	118.0	109.3	92.6	123.8	104.9
1989	119.4	103.8	86.9	130.5	109.3
1990	112.0	102.8	91.8	136.3	123.5
1991	110.2	100.8	91.4	149.6	135.7
Average annual percent change:					
1967-91	2.7	.5	-2.1	6.9	4.1
1982-91	1.1	.1	-1.0	4.6	3.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 218. Federal Government-Supply and inventory control: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	72.1	147.9	205.0	37.5	52.0
1968	74.4	149.1	200.3	39.1	52.6
1969	85.3	164.7	193.0	38.8	45.5
1970	80.0	144.0	180.0	43.7	54.6
1971	80.8	131.0	162.1	49.0	60.6
1972	81.2	125.6	154.6	52.2	64.3
1973	81.8	117.2	143.4	55.4	67.7
1974	81.8	107.1	130.9	60.7	74.1
1975	88.8	107.9	121.5	62.8	70.8
1976	90.6	103.2	113.9	70.5	77.8
1977	94.2	95.5	101.4	76.0	80.7
1978	91.2	96.4	105.8	75.9	83.2
1979	89.7	91.6	102.2	82.3	91.8
1980	92.1	93.8	101.8	87.3	94.8
1981	93.0	94.5	101.6	92.5	99.4
1982	100.0	100.0	100.0	100.0	100.0
1983	98.3	100.1	101.9	105.2	107.0
1984	94.4	98.3	104.0	109.1	115.5
1985	91.1	96.7	106.2	114.6	125.8
1986	93.3	99.0	106.1	119.0	127.5
1987	98.2	101.6	103.4	122.2	124.5
1988	101.5	100.4	98.9	125.1	123.3
1989	100.0	97.8	97.8	127.9	127.9
1990	105.3	99.1	94.1	132.9	126.2
1991	111.5	92.5	83.0	140.9	126.4
Average annual percent change:					
1967-91	1.8	-1.9	-3.7	5.7	3.8
1982-91	1.2	-9	-2.0	3.9	2.6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 219. Federal Government-Traffic management: Indexes of output per employee year and related data, 1972-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1972	83.1	119.9	144.2	56.3	67.8
1973	82.8	113.7	137.4	58.8	71.1
1974	76.8	99.5	129.6	60.1	78.3
1975	82.3	95.9	116.5	64.1	77.9
1976	80.2	96.2	119.8	67.9	84.6
1977	85.5	95.1	111.2	74.6	87.3
1978	90.8	99.2	109.3	77.5	85.4
1979	98.6	103.0	104.4	82.5	83.6
1980	98.3	100.3	102.0	82.8	84.2
1981	106.7	99.2	93.0	87.6	82.1
1982	100.0	100.0	100.0	100.0	100.0
1983	99.0	101.1	102.2	102.6	103.7
1984	96.4	100.5	104.3	108.6	112.7
1985	103.3	104.8	101.5	116.1	112.4
1986	95.6	96.4	100.8	112.2	117.4
1987	111.8	108.0	96.6	115.6	103.4
1988	126.1	111.5	87.0	122.7	96.8
1989	122.0	114.2	83.6	126.9	104.1
1990	118.3	121.5	102.7	126.4	106.8
1991	223.0	226.1	102.3	131.6	59.0
Average annual percent change:					
1972-91	5.3	3.4	-1.8	4.6	-7
1982-91	9.3	9.6	2	3.1	-5.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 220. Federal Government-Transportation: Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	63.6	64.8	101.9	30.6	48.1
1968	70.2	72.7	103.5	32.4	46.1
1969	73.3	76.7	104.7	36.0	49.2
1970	74.9	80.4	107.3	42.1	56.3
1971	72.1	80.1	111.1	46.7	64.8
1972	75.1	83.4	111.1	50.6	67.4
1973	78.6	87.1	110.6	52.2	66.3
1974	79.8	87.6	109.8	55.5	69.5
1975	81.2	89.7	110.4	60.6	74.6
1976	82.7	90.6	109.5	65.8	79.5
1977	87.4	96.3	110.1	69.9	79.9
1978	92.1	102.6	111.4	73.9	80.3
1979	93.6	103.0	110.0	78.9	84.3
1980	94.1	104.4	111.0	84.4	89.7
1981	98.0	102.5	104.6	94.4	96.4
1982	100.0	100.0	100.0	100.0	100.0
1983	100.2	99.3	99.0	109.8	109.5
1984	99.0	99.3	100.3	115.0	116.1
1985	100.0	101.8	101.8	120.5	120.4
1986	101.8	102.9	101.1	124.0	121.8
1987	100.6	104.7	104.0	126.8	126.1
1988	102.4	104.2	101.7	134.9	131.7
1989	102.2	105.5	103.2	143.8	140.6
1990	100.9	106.2	105.2	156.1	154.6
1991	100.4	107.1	106.7	165.6	165.0
Average annual percent change:					
1967-91	1.9	2.1	.2	7.3	5.3
1982-91	.0	.8	.7	5.8	5.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 221. State and local government-Electric power (SIC 4911): Indexes of output per employee year and related data, 1967-91
(1982 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	64.1	54.5	85.0
1968	70.7	59.0	83.5
1969	80.3	64.8	80.6
1970	83.7	70.0	83.6
1971	86.6	75.1	86.6
1972	88.3	76.4	86.6
1973	87.6	78.5	89.6
1974	86.8	79.2	91.2
1975	88.4	79.4	89.8
1976	93.1	84.0	90.1
1977	102.1	89.5	87.6
1978	101.9	94.2	92.5
1979	102.6	99.5	97.0
1980	104.2	101.2	97.1
1981	102.4	103.1	100.6
1982	100.0	100.0	100.0
1983	98.2	102.3	104.2
1984	96.9	105.7	109.1
1985	97.4	109.1	111.9
1986	99.7	115.0	115.4
1987	99.6	116.1	116.6
1988	102.5	118.9	117.0
1989	104.0	120.1	115.5
1990	105.4	124.2	117.9
1991	105.7	126.2	119.4
Average annual percent change:			
1967-91	2.1	3.6	1.4
1982-91	.6	2.6	2.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the American Public Power Association, the Edison Electric Institute, and the Bureau of the Census.

Table 222. State and local government-State sales of alcoholic beverages (Parts of SIC 5182, 5921): Indexes of output per employee year and related data, 1967-91
(1962 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	74.2	74.4	100.3
1968	74.7	77.3	103.4
1969	75.6	80.9	107.0
1970	74.9	83.5	111.5
1971	79.4	86.9	109.5
1972	82.2	90.4	110.0
1973	87.5	94.9	108.4
1974	88.3	95.2	107.9
1975	91.1	98.7	108.4
1976	91.8	99.6	108.5
1977	94.8	100.9	106.5
1978	96.7	104.1	107.6
1979	98.5	104.5	106.1
1980	97.9	103.9	106.1
1981	97.8	102.8	105.1
1982	100.0	100.0	100.0
1983	101.9	96.6	94.8
1984	102.9	94.0	91.4
1985	97.3	90.8	93.3
1986	94.5	87.8	92.9
1987	98.1	83.1	84.7
1988	96.0	79.2	82.5
1989	95.9	77.1	80.4
1990	96.3	76.4	79.4
1991	96.5	72.9	75.5
Average annual percent change:			
1967-91	1.1	-1	-1.2
1982-91	-4	-3.5	-3.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data

from the Distilled Spirits Council of the U.S., the National Alcoholic Beverage Control Association, Inc., and the Bureau of the Census.

Table 223. State and local government-Unemployment insurance (SIC 9441): Indexes of output per employee year and related data, 1967-91
(1962 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	83.1	40.9	49.3
1968	78.8	40.7	51.7
1969	76.9	39.3	51.1
1970	85.1	45.8	53.8
1971	96.8	58.3	60.3
1972	84.4	60.3	71.4
1973	83.4	54.5	65.4
1974	95.0	58.7	61.8
1975	116.1	97.8	84.2
1976	102.4	110.7	106.1
1977	89.6	93.3	104.2
1978	79.4	73.7	92.7
1979	74.7	68.8	90.0
1980	94.2	66.7	92.0
1981	87.1	84.5	97.1
1982	100.0	100.0	100.0
1983	103.5	110.2	106.5
1984	88.2	77.5	87.9
1985	91.5	77.2	84.4
1986	95.6	74.7	78.1
1987	94.0	70.7	75.2
1988	92.1	67.2	72.9
1989	92.5	67.4	72.8
1990	101.9	72.9	71.5
1991	110.3	85.0	77.0
Average annual percent change:			
1964-91	1.1	1.9	.9
1982-91	1.1	-1.8	-2.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the Employment and Training Administration, U.S. Department of Labor.

Appendix A. Methods and Data Sources

Industry Labor Productivity Measures

The indexes of output per employee hour are computed by dividing an index of output by an index of aggregate employee hours. Corresponding measures also are computed relating output to the number of employees. For industries in trade and services, measures are prepared relating output to the hours of all persons involved in producing that output, including self-employed and unpaid family workers. Where data are available, output indexes are based on the physical quantity of the products or services of the industry combined with fixed-period weights. Unit employee hour weights are used whenever possible to aggregate the data.

For many industries, however, unit labor weights are not obtainable at the detailed product level, so substitute weights must be used. The most common substitute weights are unit values, which are used if they are believed to be proportional to unit employee hours. For many manufacturing industries, however, employee hour weights at the product-class level can be developed from the available data. In such cases, a dual-level weighting system is used: unit value weights at the product level and employee hour weights at the product-class level.

Although the weights relate to fixed periods, they are updated periodically, usually in conjunction with economic censuses, which are conducted every 5 years. The most current weights used were derived from the 1987 economic censuses.

For three industries—railroads, iron mining, and copper mining—two alternative productivity measures, using different concepts of industry output, are presented. When adequate annual physical quantity data are not available, indexes are derived from data on the value of industry output adjusted for price change. Since the adjustment for price change is most often downward, the indexes usually are called "deflated value" indexes. Such indexes are conceptually equivalent to indexes which use data on physical quantities of products combined with unit value weights. A deflated value index is derived by dividing the value of the industry's output by an industry price index. An index of these deflated values shows the change in the real value of output between the past and current periods.

Periodically, the output indexes for most of the measures are adjusted to levels based on data reported in

the economic censuses for mining, manufacturing, trade, and services. The most current adjustments presented in this report reflect data from the 1987 economic censuses.

Employment and employee hour indexes are developed primarily from basic data compiled by the Bureau of Labor Statistics and the Bureau of the Census. The BLS data are from the Bureau's monthly establishment survey (the Current Employment Statistics survey) and the Bureau of Census data are from the Census of Manufactures and the Annual Survey of Manufactures. In concept, indexes based on employee hour data from the Bureau of the Census relate to plant hours only. Employee hour data from BLS include hours at work and also payroll hours such as vacations, holidays, and sick leave paid by the establishment directly to the employee. Because of increases in paid leave over time, output per employee hour worked would tend to show a somewhat higher rate of gain than output per employee hour paid. However, actual differences between Census data and BLS data may result from statistical limitations in the data as well as from differences in concepts. In general, BLS data are the preferred source for measuring industry employment and hours because they are collected monthly and are benchmarked each year to comprehensive data from the State unemployment insurance programs.

Previously, the labor input measures for 28 of the manufacturing industries were based on data from the Current Employment Statistics (CES) survey. In this bulletin, the labor input series for an additional 42 manufacturing industries incorporate data from the CES survey. The changes were introduced beginning with data for 1987. Although both BLS and the Bureau of the Census provide data on production worker hours, neither source provides annual data by industry on nonproduction worker or all-employee hours.¹ Therefore, the nonproduction worker hours are estimated.

The estimates of aggregate nonproduction worker hours for the manufacturing industries are derived from published employment data and from estimates of average annual hours paid or worked per nonproduction worker.

¹ The term "production workers" covers manufacturing and mining employees who work at the plant or mine and who are generally in nonsupervisory occupations. The remaining employees, such as professional, technical, clerical, supervisory, etc., are identified as "nonproduction workers".

Prior to 1968, the estimates of average annual hours paid were calculated by multiplying the number of workweeks in the year by the scheduled weekly hours. Estimated hours for vacations, holidays, disability, and personal time off were subtracted from average annual hours paid to obtain an estimate of average annual hours worked. Vacation and holiday trends were based on studies by the former U.S. Department of Health, Education, and Welfare and on data from BLS surveys. Personal time off was estimated as a constant on the basis of data obtained from various sources. From 1968 to 1977, the estimates of average annual hours paid and average annual hours worked have been based on data collected in the BLS survey, Employee Compensation in the Private Nonfarm Economy. Because these surveys are no longer conducted, the 1977 levels are being carried forward until other data become available.

For the trade and service industries, measures of the hours of partners, proprietors, and supervisory workers were developed. Except for hotels, motels, and tourist courts; and beauty and barber shops, estimates were also made for the hours of unpaid family workers. Average weekly hours worked for partners, proprietors, and unpaid family workers were obtained from unpublished data collected in the Current Population Survey. Average weekly hours worked by supervisory employees were obtained from the censuses of population. Estimates for intercensal years were derived using extrapolation and linear interpolation techniques.

All-employee hour estimates for the manufacturing industries are derived by summing the aggregate hours for production workers and the estimated hours for nonproduction workers. Hours of all persons are derived by summing the aggregate hours for paid employees, partners, proprietors, and unpaid family workers.

Manufacturing and mining hours measures involving nonproduction worker hours are subject to a wider margin of error than are the measures involving only production worker hours because it is necessary to estimate the average hours of nonproduction workers. In general, any error in these estimates would have a relatively insignificant effect on the trend in the hours for all employees.

The output indexes and employee hour components of the industry productivity indexes are based on data from a number of different sources, which are identified in the tables. For many of the industries, the 1991 output indexes are based on the data sources that are regularly used. However, for some industries, the normal data sources are not yet available, and other information was used, such as Federal Reserve Board output indexes, Current Industrial Reports of the Bureau of the Census, and trade association data. All output per employee hour measures for 1991 are considered preliminary and are subject to revision. The indexes refer to a standard reference base 1982=100, and

they conform to the 1987 Standard Industrial Classification (SIC) definitions.

Industry Multifactor Productivity Measures

Output

The output measures underlying multifactor productivity are calculated using, whenever possible, the same units of products or services of the industry as are used in measuring output for the industry labor productivity measures. Whenever possible, physical quantities are used as the unit of measurement; when physical quantities are unavailable, constant-dollar value of shipments, sales, or revenue data are used. The multifactor productivity output measures differ from the labor productivity output measures primarily in the method used for weighting together the various categories of output, as explained below.

The multifactor output measure uses price weights for combining the various categories of output of an industry. Generally, census value data for each detailed output category are divided by the physical quantity of output for that category to obtain the unit value (or price) estimates. The price of each output category is multiplied by its corresponding quantity and then expressed as a share of the total value of output. These value shares, averaged at time t and $t-1$, are used to weight together the differences between t and $t-1$ in the logarithms of the quantities. The antilogarithms of the sums are taken and chained together to form the index. This form of weighting is known as Tornqvist aggregation. The output data sources are the same as those used in calculating indexes for the labor productivity measures.

Employee hours

Employee hour indexes are calculated in the same way as those used in measuring industry labor productivity. As with the labor productivity measure, employee hours are treated as homogeneous and additive with no distinction made between hours of different groups of employees. The index is computed by simply dividing the aggregate employee hours for each year by the base-period total. Data sources are the same as those used in calculating employee hour indexes for the labor productivity measures.

Capital

The measure of capital input is based on the flow of services derived from the stock of physical assets. Physical capital is composed of equipment, structures, land, and inventories. Financial capital is excluded. Capital services are estimated by calculating capital stocks; changes in the stocks are assumed proportional to changes in capital services for each asset. Stocks of different asset types are Tornqvist-aggregated, using estimated rental prices to construct the weights for assets of different types.

Capital stocks are calculated using the perpetual inventory method, which takes into account the continual additions to and subtractions from the stock of capital as new investment and retirement of old capital take place. The perpetual inventory method measures stocks at the end of a year equal to a weighted sum of all past investments, where the weights are the asset's efficiency relative to a new asset. A hyperbolic age-efficiency function is used to calculate the relative efficiency of an asset at different ages.

The hyperbolic age-efficiency function can be expressed:

$$S_t = (L-t)/(L-(B)t)$$

where:

- S_t = the relative efficiency of a t-year-old asset
- L = the service life
- t = the age of the asset
- B = the parameter of efficiency decline

The parameter of efficiency decline is assumed to be 0.5 for equipment and 0.75 for structures. These parameters yield a function in which assets lose efficiency more slowly at first, then rapidly later in life.

Stocks of equipment, structures, inventories, and land are estimated separately. Individual price deflators for each asset category are constructed and used to convert the current-dollar investment to constant dollars. Industry-specific service lives are computed for each type of equipment asset for use in the perpetual inventory method. Current-dollar values of inventory stocks are calculated for three separate categories of manufacturers' inventories: Finished goods, work in process, and materials and supplies. Inventory stocks for each year are calculated as the average of the end-of-year stocks in years t and $t-1$ to represent the average used during the year as a whole. This is also done with equipment, structures, and land. Current-dollar inventory values for the three categories of inventories are deflated with appropriate price indexes.

Land stocks are estimated as a function of the movement in constant-dollar gross structures stocks for the given industry.

The various equipment, structure, inventory, and land stock series in constant dollars are aggregated into one capital input measure using estimated rental prices as weights. The method of calculating rental prices is similar to that used in calculating multifactor productivity for major sectors of the economy except that no attempt is made to incorporate the effects of indirect business taxes, for which data are lacking at the industry level.

Rental prices are expressed in rates per constant dollar of productive capital stocks. Each rental price is multiplied by its constant-dollar capital stock to obtain current-dollar capital costs which are then converted to value shares for Tornqvist aggregation.

Industry capital indexes are developed from basic data published and maintained by the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; the Office of Employment Projections, Bureau of Labor Statistics; and the Interstate Commerce Commission. Price indexes are derived from producer price indexes developed by the Bureau of Labor Statistics.

Intermediate purchases

The index of intermediate purchases input is an aggregate of separate indexes of change in real materials, services, fuels, and electricity consumed by an industry. With the exception of electricity, for which both price and quantity data are available, the above indexes are calculated by dividing annual current-dollar values by appropriate price indexes to obtain constant-dollar annual estimates. Separate price deflators for materials and fuels for each industry are constructed using detailed price and value data for individual subcomponents of each group. The aggregate deflators are divided into the current-dollar values to derive constant-dollar estimates. The constant-dollar series for each component are indexed by dividing each year's estimate by the base-period aggregate.

The indexes of change in real materials, services, fuels, and electricity are weighted together with value share weights to derive an aggregate intermediate purchases index. These weights are derived by dividing the current-dollar values of each by the total combined value of intermediate purchases, and averaging these weights at times t and $t-1$.

Industry intermediate purchases indexes are developed from basic data published by the Bureau of the Census, the Bureau of Economic Analysis, the Interstate Commerce Commission, and the Association of American Railroads.

Weights for major input components

The indexes representing quantity change for each of the three major inputs are weighted together to compute the index of combined inputs. The relative weights for each year are derived from total costs for each input. All-employee labor costs, including fringe benefits, are used for the labor weight. The sum of current-dollar values for materials, services, fuels, and electricity constitute the weight for intermediate purchases. The weight for capital is derived by subtracting labor costs and the value of intermediate purchases from total revenue. These compensation shares are averaged at time t and $t-1$.

Government Labor Productivity Measures

Federal

Indexes of output per employee year, output, and employee years for selected functional categories² of government activity and for 299 participating organizations are constructed in a manner similar to that described for industries. In addition, indexes of compensation per employee year and unit labor costs are calculated. At the present time, these indexes cover about 64 percent (1.9 million employee years) of the Federal civilian work force.

Ideally, a productivity index should relate final outputs to their associated direct and indirect input(s), and, in fact, the output data are final from the perspective of the functional categories within which these data are classified. The outputs of one organization may be consumed wholly or partially by another Federal organization in the production of its final outputs. As a consequence, all output indicators in the measured portion of the Federal Government may not be final from the perspective of a higher level of organization; for example, the entire Federal Government. Therefore, the overall statistics do not represent "Federal productivity" but, rather, the productivity changes in the weighted aggregate of the Federal organizations that are included. The measure combines the output indexes of all 299 organizations, using employee year weights. The index of this aggregate is divided by an aggregate employment index to compute the overall productivity index for the participating Federal organizations.

Through an annual collection process, most data are submitted directly by agencies to BLS, but in some cases data are obtained from secondary sources such as agency budgets and annual reports. Approximately 2,500 products and services are aggregated into output indexes by combining the quantities of each type of output using their respective base-year labor requirements as weights. These unit employee-year weights are constructed from the detailed output and input data provided by each organization. Although the weights relate to fixed periods, they are updated every 5 years. The output segments are linked and referenced to a fiscal year 1982 base; the fiscal year is October 1 through September 30.

The organizational indexes are grouped into 28 functional categories, based on similarity of activity. Some of these categories, such as printing and duplication, are more homogeneous than others, such as general support services, which include many diverse activities. Nonetheless, these categories provide insight into the trends for the Federal Government. Although the indexes are also constructed for each participating organization,

these are not published but are returned to each organization for its own use (for example, to stimulate further examination of the causes of productivity change within each organization). This is one method used by BLS to validate the basic data (that is, by examining the reasonableness of the derived trends).

Employee-year indexes are developed from agency data submissions and secondary sources. As in all labor input measures used by the Bureau to develop productivity indexes, employee years are considered homogeneous and additive. Each employee year reflects the regularly scheduled time, overtime, and leave time of all full-time, part-time, and intermittent employees. An employee year is equivalent to one individual paid for 2,087 hours.

The compensation indexes include wages, salaries, and benefits including retirement, merit pay increases, incentive pay, health insurance, and the like. Data to compute the indexes are taken from agency data submissions and secondary sources. The unit labor cost index is derived by dividing the index of compensation by the index of output.

State and local

Government measurements are being extended to include indexes of output per employee year, output, and employee years for selected State and local services. A cross-section of services is being examined and indexes computed using concepts and methods similar to those for industries and the Federal Government. This research, which uses published and readily available secondary data, is keyed to the Standard Industrial Classification system.

Output indexes reflect final services to the public. The consequences or effectiveness of government service are not measured. The focus is on government production. For example, prison system outputs are the number of prisoners housed and the number to whom treatment is administered, not the effectiveness of rehabilitation or community safety. Output data are taken from Federal agencies such as the Departments of Labor, Justice, and Transportation and from industry groups such as the American Public Power Association, American Public Transit Association, and Distilled Spirits Council of the U.S.

Employee year index computations use the same general concepts as those used in the Federal measurements. The primary source of employment data is the Bureau of the Census's annual public employment survey. This is supplemented by data from Federal agencies and industry associations when available.

Rates of Change

The rates of change published in this bulletin are average annual percent changes calculated using the compound rate formula:

² See list of functional categories accompanying discussion in text for definitions.

$$((X_T/X_I)^{1/n} - 1) * 100,$$

where:

X_i is the value of an index number in year i ,

I is the initial year of the period,

T is the terminal year of the period,

and

n equals T minus I .

The rates of change shown in each table indicate the first year of available data, in some cases beginning in 1947. However, due to space limitations, the tables in this bulletin do not provide indexes prior to 1967. Indexes and average annual rates of change for time periods not shown are available on request from the Bureau of Labor Statistics.

Appendix B. BLS Publications on Productivity and Technology

How to order

The *Monthly Labor Review* is available by subscription or single copy from New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 (\$25 a year domestic; \$31.25 foreign; single copy \$7.00 domestic; \$8.75 foreign). Make checks payable to Superintendent of Documents.

Reprints and news releases are available free of charge, as long as the supply lasts, from the Office of Productivity and Technology, Room 2170, Bureau of Labor Statistics, 2 Massachusetts Ave., NE, Washington, DC 20212-0001 or from the Bureau's regional offices (see addresses on the inside back cover). Electronic access to productivity news releases is available for a fee. For details, contact the Office of Publications, Room 2860, Bureau of Labor Statistics, 2 Massachusetts Ave., NE, Washington, DC 20212-0001.

Bulletins may be purchased from New Orders, Superintendent of Documents or the BLS Publications Sales Center, P.O. Box 2145, Chicago, IL 60690.

Papers and information regarding reports and articles published prior to 1987 are available from the Bureau's Office of Productivity and Technology.

Productivity trends in individual industries

"Productivity Measures for Transportation Industries," by John Duke. A paper presented at the Highway-Related Transportation Industry Productivity Measures Symposium, Arlington, VA, November 20, 1992.

"Bureau of Labor Statistics Productivity Measures for Service Industries," by Edwin R. Dean and Kent Kunze. A paper presented at the Conference on Service Productivity and Quality Challenge, Philadelphia, PA, October 23, 1992.

"Productivity in the Nuts and Bolts Industry, 1958-90," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, October 1992, pp. 10-15.

"Productivity Trends: Prepared Fish and Seafoods Industry," by Mark W. Dumas, *Monthly Labor Review*, October 1992, pp. 3-9.

"Productivity in Wood Containers," by James York, *Monthly Labor Review*, October 1992, pp. 16-19.

"Multifactor Productivity in Railroad Transportation," by John Duke, Diane Litz, and Lisa Usher, *Monthly Labor Review*, August 1992, pp. 49-58.

"Productivity in Industry and Government, 1990," by Mark W. Dumas, *Monthly Labor Review*, June 1992, pp. 48-57.

"Productivity in Crude Oil and Gas Production, 1959-1990," by Brian Friedman, *Monthly Labor Review*, March 1992, pp. 9-17.

"Productivity Trends in Selected Industries," by Charles Ardolini and Mark Scott Sieling, *Business Economics*, October 1991, pp. 26-30.

"Multifactor Productivity in the Farm and Garden Equipment Industry," by Edna Falk and Diane Litz, *Monthly Labor Review*, June 1991, pp. 27-38.

"Productivity in the Rubber and Plastics Hose and Belting Industry," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, July 1990, pp. 26-31.

"Productivity Trends in the Photographic Equipment and Supplies Industry," by Clyde Huffstutler and Stuart Kipnis, *Monthly Labor Review*, June 1990, pp. 39-49.

"Productivity Trends in Scrap and Waste Processing," by Mark Scott Sieling, *Monthly Labor Review*, April 1990, pp. 30-37.

"Productivity in the Retail Auto and Home Supply Store Industry," by Patricia S. Wilder, *Monthly Labor Review*, August 1989, pp. 36-39.

"Multifactor Productivity Advances in the Tires and Inner Tubes Industry," by Diane Litz and Linda Moore, *Monthly Labor Review*, June 1989, pp. 19-27.

"Multifactor Productivity Slips in the Nonrubber Footwear Industry," by John Duke and Lisa Usher, *Monthly Labor*

Review, April 1989, pp. 32-38.

"Productivity in Agricultural Chemicals Industries," by Horst Brand and Kelly Bryant, *Monthly Labor Review*, March 1989, pp. 21-27.

"Productivity in the Carburetors, Pistons, and Valves Industry," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, February 1989, pp. 43-46.

"Patterns of Productivity Change in Men's and Boys' Suits and Coats," by Mark Scott Sieling and Daniel Curtin, *Monthly Labor Review*, November 1988, pp. 25-31.

"Variety Stores Experience Shifting Trend in Productivity," by James D. York, *Monthly Labor Review*, October 1988, pp. 30-33.

"Productivity Growth Slows in the Organic Chemicals Industry," by Clyde Huffstutler and Barbara Bingham, *Monthly Labor Review*, June 1988, pp. 44-51.

"Retail Hardware Stores Register Productivity Gain," by Patricia S. Wilder and Virginia L. Klarquist, *Monthly Labor Review*, May 1988, pp. 39-43.

"Semiconductor Productivity Gains Linked to Multiple Innovations," by Mark Scott Sieling, *Monthly Labor Review*, April 1988, pp. 27-33.

"Productivity Trends in the Cotton and Synthetic Broad Woven Fabrics Industry," by Mark W. Dumas and J. Edwin Henneberger, *Monthly Labor Review*, April 1988, pp. 34-38.

"Productivity Trends in Department Stores, 1967-86," by Brian L. Friedman, *Monthly Labor Review*, March 1988, pp. 17-21.

"Productivity Shows a Decline in Automotive Repair Shops," by John G. Olsen and Richard B. Carnes, *Monthly Labor Review*, March 1988, pp. 22-26.

"Productivity Gains Lukewarm for Makers of Nonelectric Heating Equipment," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, March 1988, pp. 27-32.

"Productivity in Industrial Inorganic Chemicals," by Horst Brand and Ziaul Z. Ahmed, *Monthly Labor Review*, March 1988, pp. 33-40.

"Performance of Multifactor Productivity in the Steel and Motor Vehicles Industries," by Mark K. Sherwood, *Monthly Labor Review*, August 1987, pp. 22-31.

"The Mining Machinery Industry: Labor Productivity Trends, 1972-84," by Barbara A. O'Neil, *Monthly Labor Review*, June 1987, pp. 31-35.

"Productivity Trends in the Furniture and Home Furnishings Stores Industry," by Arthur S. Herman and J. Edwin Henneberger, *Monthly Labor Review*, May 1987, pp. 24-29.

"Two Decades of Productivity Growth in Poultry Dressing and Processing," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, April 1987, pp. 34-39.

"Retail Liquor Stores Experience Flat Trend in Productivity," by James D. York, *Monthly Labor Review*, February 1987, pp. 25-29.

Productivity trends in government

Description of Output Indicators by Agency for the Federal Government, Fiscal Year 1991, Bureau of Labor Statistics, February 1993. Compiled annually.

Description of Output Indicators by Function for the Federal Government, Fiscal Year 1991, February 1993. Compiled annually.

"Measuring Federal Government Productivity," by Darlene Forte. In *Handbook for Productivity Measurement and Improvement*, William F. Christopher and Carl G. Thor, editors, Productivity Press, January 1993.

Productivity Statistics for Federal Government Functions, Fiscal Years, 1967-91, Bureau of Labor Statistics, January 1993. Summary indexes of output per employee year, output, employee years, and other related data for 28 functions and the total measured portion of the Federal government. Compiled annually.

Federal Government Productivity Highlights, Fiscal Years 1967-91, Bureau of Labor Statistics, December 1992. Summary indexes of output per employee year, output, employee years, and other related data for the Federal Government. Compiled annually.

"The Challenge: Measuring Productivity in the Government," by Darlene Forte. In *Productivity and Quality in Government*, Industrial Engineering and Management Press, February 1992.

"Productivity Measures: Industries and Government," reprint of chapter 11 of *BLS Handbook of Methods*, Bulletin 2214, 1992.

"Public Sector Productivity Measurement: U.S. Federal Government Agencies," by Jerome A. Mark. A paper presented at the European Association of National Productivity Centers Conference, Athens, Greece, October 5-8, 1988.

"Productivity Measurement as a Tool in Federal Management Improvement," by Charles W. Ardolini.

Testimony before the U.S. Subcommittee on Civil Service, Post Office, and General Services of the Committee on Government Affairs, September 19, 1984.

Concepts and techniques of productivity measurement

Labor Composition and Productivity Change, BLS Bulletin, forthcoming.

"The Cyclicalities of Productivity Measures: Are There Increasing Returns?" by Michael J. Harper and Susan G. Powers. A paper presented at the Society of Government Economists, Allied Social Sciences Meeting, January 1993.

"Productivity Measures Under a Disequilibrium Framework," by Aklilu Zegeye. Discussion paper presented at the Eastern Economic Conference, Washington, DC, March 19-22, 1993.

"High-Tech Capital Formation and Labor Composition in U. S. Manufacturing Industries: An Exploratory Analysis," by Ernst Berndt, Catherine Morrison, and Larry Rosenblum, NBER Working Paper No. 4010, March 1992.

"Stocks of Knowledge, Research and Development, and Productivity Growth," by Leo Sveikauskas and James Adams. A paper presented at the Society of Government Economists, Allied Social Sciences Meeting, January 1992.

"Bureau of Labor Statistics Productivity Measures for Service Industries," by Edwin R. Dean and Kent Kunze. A paper presented before the International Productivity Symposium V, Oslo, Norway, June 15-18, 1992.

"Productivity Measurement in Service Industries," by Edwin R. Dean and Kent Kunze. In *Output Measurement in the Service Sectors, Studies in Income and Wealth*, Vol. 56, Zvi Griliches, editor, University of Chicago Press for the National Bureau of Economic Research, Chicago, 1992.

"Cyclicalities of Labor Productivity Measures," by Lawrence Fulco, Michael J. Harper, and Susan G. Powers. A paper presented at the Atlantic Economic Association Meeting, October 1991.

"Measuring Components of Labor Composition Change," by Edwin R. Dean, Mary Jablonski, Kent Kunze, and Larry Rosenblum. A paper presented at the American Economic Association Meetings, Washington, D.C., December 1990.

"High-Tech Capital, Economic Performance and Labor Composition in U.S. Manufacturing Industries: An Exploratory Analysis," by Ernst R. Berndt and Catherine J. Morrison. A paper presented before the American

Economic Association and sponsored by BLS, December 1990.

"Productivity and the Measurement of Change in the Composition of Labor Input," by Edwin R. Dean, Kent Kunze, and Larry S. Rosenblum. A paper presented before the International Productivity Symposium IV at Kyoto, Japan, October 1-4, 1990.

"Neoclassical Capital Measures Using Vintage Data: An Application to Breeding Livestock," by V. Eldon Ball and Michael J. Harper. A paper presented at the National Bureau of Economic Research Summer Institute, July 1990.

"Productivity Measurement in Service Industries," by Edwin R. Dean and Kent Kunze. A paper presented before the Conference on Output Measurement in the Service Sector, May 1990.

"Hours At Work: A New Base for BLS Productivity Statistics," by Mary Jablonski, Kent Kunze, and Phyllis Otto, *Monthly Labor Review*, February 1990, pp. 17-24.

"Productivity, Age, and Labor Composition Changes in the U.S.," by Mary Jablonski, Larry Rosenblum, and Kent Kunze. In *The Aging of the American Workforce*, Irving Bluestone, Rhonda J. V. Montgomery, and John D. Owen, editors, Wayne State University Press, 1990, pp. 304-338.

"Rates of Return and Capital Aggregation Using Alternative Rental Prices," by Michael J. Harper, Ernst R. Berndt, and David O. Wood. In *Technology and Capital Formation*, Dale W. Jorgenson and Ralph Landau, editors, MIT Press, 1989, pp. 331-372.

"Energy, Obsolescence, and the Productivity Slowdown," by Charles R. Hulten, James W. Roberston, and Frank C. Wyckoff. In *Technology and Capital Formation*, Dale W. Jorgenson and Ralph Landau, editors, MIT Press, 1989, pp. 225-258.

The Impact of Research and Development on Productivity Growth, BLS Bulletin 2331, December 1989.

"Cyclical Movements in Bureau of Labor Statistics Multifactor Productivity Measures and Capacity Utilization," by Susan G. Powers, BLS Working Paper: 128, August 1989.

"The Contribution of Research and Development to Productivity Growth," by Leo Sveikauskas, *Monthly Labor Review*, March 1986, pp. 16-20.

Business economy and major sectors

"Multifactor Productivity in the Utility Services Industries, 1948-88," by John Glaser, *Monthly Labor Review*, forthcoming.

"Multifactor Productivity in Manufacturing, 1984-88," by William Gullickson, *Monthly Labor Review*, October 1992, pp. 20-32.

"Productivity Measures: Business sector and major subsectors," reprint of chapter 10, *BLS Handbook of Methods*, BLS Bulletin 2414, 1992.

"Multifactor Productivity Measures: Private Business, Private Nonfarm Business, and Manufacturing." Data available since 1948. Bureau of Labor Statistics. Annual releases.

"Productivity and Costs: Business, Nonfarm Business, and Manufacturing." Bureau of Labor Statistics. 1947 to the present. Quarterly and annual releases.

"Productivity and Costs: Nonfinancial Corporate Sector." 1958 to the present. Bureau of Labor Statistics. Quarterly and annual releases.

"Hours at Work: A New Base for BLS Productivity Statistics," by Mary Jablonski, Kent Kunze, and Phyllis Otto, *Monthly Labor Review*, February 1990, pp. 17-24.

"Recent Changes in the Growth of U.S. Multifactor Productivity," by Edwin Dean and Kent Kunze, *Monthly Labor Review*, May 1988, pp. 14-22.

"Multifactor Productivity in U.S. Manufacturing, 1949-88," by William Gullickson and Michael J. Harper, *Monthly Labor Review*, October 1987, pp. 18-28.

Technology studies

Technology and Its Impact on Labor in the Steel Industry, forthcoming from the Bureau of Labor Statistics.

Technology and Labor in Copper Ore Mining, Household Appliances, and Water Transportation, forthcoming from the Bureau of Labor Statistics.

Technological Change and Its Impact on Labor in Four Industries (coal mining, pharmaceuticals, metalworking machinery, and eating and drinking places), BLS Bulletin 2409, October 1992.

Outlook for Technology and Labor in Hospitals, BLS Bulletin 2404, May 1992.

"Technological Change," reprint of chapter 12 of the *BLS Handbook of Methods*, Bulletin 2414, 1992.

Technology and Its Impact on Employment in the Life and Health Insurance Industries, BLS Bulletin 2368, September 1990.

Technology and Labor in Three Service Industries (utilities, retail trade, and lodging) BLS Bulletin 2367, September 1990.

Outlook for Technology and Labor in Telephone Communications, BLS Bulletin 2357, July 1990.

Technological Change and Its Labor Impact in Four Industries (contract construction, railroad transportation, air transportation, petroleum pipeline transportation), BLS Bulletin 2316, December 1988.

"Technological Change and Employment: Some Results from BLS Research," by Jerome A. Mark, *Monthly Labor Review*, April 1987, pp. 26-29.

International comparisons

"International Comparisons of Alternative Unemployment Indicators," by Constance Sorrentino, *Monthly Labor Review*, forthcoming, 1993.

"Foreign Labor Statistics," reprint of chapter 13, *BLS Handbook of Methods*, Bulletin 2414, 1992.

"Union Membership Statistics in 12 Countries," by Clara Chang and Constance Sorrentino, *Monthly Labor Review*, December 1991, pp. 46-53.

"International Comparisons of Manufacturing Productivity and Labor Cost Trends." Bureau of Labor Statistics. Annual news release; usually in June-July.

International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing. Semiannual BLS report; spring and fall.

"Comparative Labor Force Statistics for 10 Countries." Semiannual; Bureau of Labor Statistics. Spring and fall.

"Manufacturing Productivity and Labor Costs in 14 Economies," by Arthur Neef and Christopher Kask, *Monthly Labor Review*, December 1991, pp. 24-37.

"International Comparisons of Hourly Compensation Costs," by Patricia Capdevielle, *Monthly Labor Review*, August 1991, pp. 34-38.

"Comparative Changes in Labor Productivity: United States and Western Europe," by Arthur Neef. A paper presented at the Atlantic Economic Conference, Session on Recent Productivity Developments in Major Nations, Williamsburg, Virginia, October 1990.

"The Changing Family in International Perspective," by Constance Sorrentino, *Monthly Labor Review*, March 1990, pp. 41-58.

"Alternative Measures of Capital Inputs in Japanese Manufacturing," by Edwin R. Dean, Masako Darrough, and Arthur Neef. In *Productivity Growth in Japan and the United States*, Charles R. Hulton, editor, University of Chicago Press, 1990.

"Adjusted Japanese Unemployment Rate Remains Below 3 percent in 1987-88," by Constance Sorrentino, *Monthly Labor Review*, June 1989, pp. 36-38.

"Employment and Unemployment Patterns in the United States and Europe, 1973-87," by Ronald E. Kutscher and Constance Sorrentino, *Journal of Labor Research*, Vol. X, No. 1, Winter 1989, pp. 5-22.

"An International Comparison of Manufacturing Productivity and Unit Labor Cost Trends," by Arthur Neef. A paper presented at the Social Science Research Council

Conference on International Productivity and Competitiveness, Palo Alto, California, October 28-30, 1988.

"Statistics for Assessing International Competitiveness," by Jerome A. Mark. A paper presented at the U.S.-Israeli Department-to-Ministry Seminar Program, Jerusalem, Israel, October 17-20, 1988.

"An Analysis of Unemployment and Other Labor Market Indicators in 10 Countries," by Joyanna Moy, *Monthly Labor Review*, April 1988, pp. 39-50.

Index of Tables

Industry	Table		Table		
Agricultural chemicals.....	70	Cement, hydraulic.....	81	Dairy products.....	15
Agricultural chemicals, nec.....	74	Ceramic wall and floor tile.....	85	Cheese.....	16
Air and gas compressors.....	122	Cereal breakfast foods.....	24	Milk.....	17
Air transportation.....	144	Cheese, natural and processed.....	16	Department stores.....	152
Alkalies and chlorine.....	62	Chemicals and allied products:		Detergents.....	66
Aluminum rolling and drawing.....	96	Agricultural chemicals, nec.....	74	Doors, metal.....	101
Aluminum, primary.....	94	Alkalies.....	62	Drug stores and proprietary stores.....	171
Animal feed.....	27	Chlorine.....	62		
Apparel.....	41	Cosmetics.....	67	Eating and drinking places.....	170
Apparel and accessory stores.....	160	Detergents.....	66	Electric lamps.....	133
Appliance, radio, television, and computer stores.....	167	Fertilizers.....	70	Electric utilities.....	148
Appliances.....	128-132	Industrial inorganic chemicals.....	61	Electrical equipment:	
Cooking equipment.....	129	Industrial inorganic chemicals, nec.....	64	Appliances.....	128-132
Freezers.....	130	Industrial organic chemicals, nec.....	69	Cooking.....	129
Household, nec.....	132	Inorganic pigments.....	63	Generators.....	127
Laundry equipment.....	131	Paints and allied products.....	68	Lamps.....	133
Refrigerators.....	130	Soaps.....	66	Laundry.....	131
Audio and video equipment stores.....	169	Synthetic fibers.....	65	Lighting fixtures.....	134
Audio equipment.....	135	Toiletries.....	67	Motors.....	127
Auto and home supply stores.....	158	Cigarettes, chewing and smoking tobacco.....	36	Refrigerators and freezers.....	130
Automobiles.....	136, 188-189	Cigars.....	37	Switchboard.....	126
Automotive repair shops.....	178	Class I bus carriers.....	141	Switchgear.....	126
Automotive stampings.....	104	Clay construction products.....	83	Transformers.....	125
		Clay products.....	82-83		
Bakeries.....	156	Clay refractories.....	86	Fabricated metal products:	
Bakery products.....	28	Clothing.....	41	Cans.....	97
Ball and roller bearings.....	121	Clothing stores.....	160-163	Doors.....	101
Banks, commercial.....	173	Coal mining.....	6	Edge tools.....	98
Barber shops.....	176	Commercial banks.....	173	Fasteners.....	102
Beauty and barber shops.....	176	Communications, telephone.....	146	Hand tools.....	98
Beauty shops.....	177	Compressors.....	119, 122	Heating equipment.....	99
Beet sugar.....	31	Computer stores.....	167, 169	Pipe.....	107
Belts.....	77	Concrete products.....	87	Stampings.....	103-105
Beverages:		Concrete, ready-mixed.....	88	Structural metal.....	100
Malt.....	32	Construction machinery.....	112	Valves.....	106, 124
Milk.....	17	Containers:		Fabricated pipe and fittings.....	107
Soft drinks.....	33	Glass.....	80	Fabricated structural metal.....	100
Bituminous coal and lignite mining.....	7	Metal.....	97	Family clothing stores.....	163
Bolts, nuts, rivets, and washers.....	102	Wood.....	48	Farm and garden machinery:	
Bottled and canned soft drinks.....	33	Cooking equipment.....	129	Labor productivity.....	109
Boxes:		Copper mining, crude ore.....	4	Multifactor productivity.....	186-187
Corrugated and solid fiber.....	58	Copper mining, recoverable metal.....	5	Farm machinery and equipment.....	110
Paperboard.....	59	Copper, primary.....	93	Fasteners.....	102
Wood.....	48	Copper rolling and drawing.....	95	Feeds for animals and fowls.....	27
Brick and structural clay tile.....	84	Corn milling.....	26	Fertilizers.....	70
Bus carriers, class I.....	141	Corrugated and solid fiber boxes.....	58	Mixed fertilizers.....	73
		Cosmetics and other toiletries.....	67	Nitrogenous.....	71
Cabinets.....	44	Cotton and synthetic broadwoven fabrics.....	38	Phosphatic.....	72
Cameras.....	138	Crude petroleum and natural gas.....	8	Fertilizers, mixing only.....	73
Canned fruits and vegetables.....	19	Crushed and broken stone.....	10	Film.....	138
Cans.....	97			Fish.....	34
Car dealers.....	157			Flour and other grain mill products.....	23
Carburetors, pistons, rings, and valves.....	124			Flour, including flour mixes, and other grains.....	22
				Fluid milk.....	17

Industry	Table		Table		Table
Folding paperboard boxes.....	59	State sales of alcoholic beverages.....	222	Garden.....	109
Food stores.....	154	Unemployment insurance.....	223	Mining.....	113
Footwear:		Grain mill products.....	21	Oil and gas field.....	114
Labor productivity.....	79	Animal feed.....	27	Major household appliances.....	128
Multifactor productivity.....	182-183	Cereal.....	24	Malt beverages.....	32
Foundries:		Com.....	26	Mattresses and bedsprings.....	53
Gray and ductile iron.....	90	Flour.....	22-23	Meat packing plants.....	12
Steel.....	91	Rice.....	25	Meat products:	
Steel, nec.....	92	Gray iron and ductile foundries.....	90	Poultry.....	14
Freezers.....	130	Grocery stores.....	155	Red meat.....	11
Frozen fruits and vegetables.....	20			Sausage.....	13
Fruits and vegetables:		Hand and edge tools, nec.....	98	Men's and boys' clothing stores.....	161
Canned.....	19	Hardware stores.....	151	Men's and boys' suits and coats.....	41
Frozen.....	20	Hardwood veneer and plywood.....	46	Metal cans.....	97
Preserved.....	18	Heating equipment, except electric.....	99	Metal cutting machine tools.....	116
Furniture:		Home furniture, furnishings, and		Metal doors, sash, and trim.....	101
Household.....	49	equipment stores.....	165	Metal forming machine tools.....	117
Office.....	54	Hose.....	77	Metal household furniture.....	52
Furniture and home furnishings		Hosiery.....	39	Metal office furniture.....	56
stores.....	166	Hotels and motels.....	174	Metal stampings.....	103
Garden machinery.....	109	Household appliance stores.....	168	Metal stampings, nec.....	105
Gas and electric utilities.....	147	Household appliances, nec.....	132	Milk.....	17
Gas extraction.....	8	Household audio and video		Milling:	
Gas utilities.....	149	equipment.....	135	Cotton.....	38
Gasoline service stations.....	159	Household cooking equipment.....	129	Grain.....	21-27
Generators.....	127	Household furniture.....	49	Hosiery.....	39
Glass containers.....	80	Mattresses and bedsprings.....	53	Synthetic fibers.....	38
Government, Federal		Metal furniture.....	52	Wood.....	42-43
Audit of operations.....	193	Upholstered furniture.....	51	Yarn.....	40
Buildings and grounds.....	194	Wood furniture.....	50	Millwork.....	43
Communications.....	195	Household laundry equipment.....	131	Mining:	
Education and training.....	196	Household refrigerators		Coal.....	6-7
Electric power production and		and freezers.....	130	Copper.....	4-5
distribution.....	197	Hydraulic cement.....	81	Iron.....	2-3
Equipment maintenance.....	198			Nonmetallic minerals.....	9
Finance and accounting.....	199	Industrial inorganic chemicals.....	61	Oil shale.....	8
General support services.....	200	Alkalies.....	62	Stone.....	10
Information services.....	201	Chlorine.....	62	Mining machinery.....	113
Legal and judicial activities.....	202	Pigments.....	63	Miscellaneous plastic products, nec.....	78
Library services.....	203	Miscellaneous.....	64	Motels.....	174
Loans and grants.....	204	Industrial organic chemicals, nec.....	69	Motor vehicles and equipment:	
Medical services.....	205	Inorganic pigments.....	63	Labor productivity.....	136
Military base services.....	206	Instruments to measure electricity.....	137	Multifactor productivity.....	188-189
Natural resources and		Intercity trucking.....	142-143	Motors and generators.....	127
environmental management.....	207	Internal combustion engines, nec.....	108	Multifactor measures:	
Personnel investigations.....	208	Iron mining, crude ore.....	2	Farm and garden machinery.....	186-187
Personnel management.....	209	Iron mining, usable ore.....	3	Footwear.....	182-183
Postal service.....	210			Motor vehicles and equipment.....	188-189
Printing and duplication.....	211	Kitchen cabinets.....	44	Railroads.....	190-191
Procurement.....	212	Lamps.....	133	Steel.....	184-185
Records management.....	213	Laundry, cleaning, and garment		Tires and inner tubes.....	180-181
Regulation—compliance and		services.....	175	New and used car dealers.....	157
enforcement.....	214	Laundry equipment.....	131	Nitrogenous fertilizers.....	71
Regulation—rulemaking and		Lawn and garden equipment.....	111	Nonmetallic minerals, except fuels.....	9
licensing.....	215	Lighting fixtures and equipment.....	134	Nuts.....	102
Social services and benefits.....	216	Liquor stores.....	172		
Specialized manufacturing.....	217			Office furniture.....	54
Supply and inventory control.....	218	Machine tool accessories.....	118	Metal.....	56
Total sample.....	192	Machine tools.....	115	Wood.....	55
Traffic management.....	219	Metal cutting.....	116	Office furniture, except wood.....	56
Transportation.....	220	Metal forming.....	117	Oil and gas field machinery.....	114
Government, State and local		Machinery:		Oil extraction.....	8
Electric power.....	221	Construction.....	112		
		Farm.....	110		

Industry	Table	Table	Table
Paints and allied products.....	68	Liquor stores.....	172
Pa. ets.....	48	Radio, television, and computer stores.....	169
Paper and allied products:		Service stations.....	159
Bags.....	60	Shoe stores.....	164
Boxes.....	58-59	Variety stores.....	153
Paperboard.....	57	Rice milling.....	25
Paper and plastic bags.....	60	Rivets.....	102
Pesticides.....	74	Rubber and plastics hose and belting.....	77
Petroleum pipelines.....	145	Sausages and other prepared meats.....	13
Petroleum refining.....	75	Sawmills and planing mills, general.....	42
Phosphatic fertilizers.....	72	Scrap and waste materials.....	150
Photocopy equipment.....	138	Screws.....	102
Photographic equipment and supplies.....	138	Seafood.....	34
Pigments.....	63	Service stations.....	159
Pipe fittings.....	106	Services:	
Pipelines.....	145	Automotive repair shops.....	178
Plastic products:		Beauty and barber shops.....	176
Bags.....	60	Hotels and motels.....	174
Miscellaneous.....	78	Laundry, cleaning, and garment services.....	175
Plywood.....	45	Shoe stores.....	164
Hardwood.....	46	Skids.....	48
Softwood.....	47	Smelting and refining.....	90-92
Poultry dressing and processing.....	14	Soaps and detergents.....	66
Prepared feeds for animals and fowls.....	27	Soft drinks.....	33
Prepared fresh or frozen fish and seafoods.....	34	Softwood veneer and plywood.....	47
Preserved fruits and vegetables.....	18	Stampings:	
Primary aluminum.....	94	Automotive.....	104
Primary copper.....	93	Metal.....	103
Pulp, paper, and paperboard mills.....	57	Miscellaneous.....	105
Pumps and compressors.....	119	Steel:	
Pumps and pumping equipment.....	120	Labor productivity.....	89
Radio, television, and computer stores.....	169	Multifactor productivity.....	184-185
Radios.....	135	Steel foundries.....	91
Railroad transportation, car miles.....	140	Steel foundries, nec.....	92
Railroad transportation, multifactor productivity.....	190-191	Stone.....	10
Railroad transportation, revenue traffic.....	139	Stores:	
Raw and refined cane sugar.....	30	Apparel.....	160-163
Ready-mixed concrete.....	88	Appliance.....	167-169
Red meat products.....	11	Auto and home supply.....	158
Refining, petroleum.....	75	Bakeries.....	156
Refrigeration and heating equipment.....	123	Clothing, boys'.....	161
Refrigerators.....	130	Clothing, family.....	163
Retail bakeries.....	156	Clothing, men's.....	161
Retail trade:		Clothing, women's.....	162
Appliance stores.....	167-169	Department.....	152
Auto and home supply stores.....	158	Drug.....	171
Bakeries.....	156	Food.....	154
Car dealers.....	157	Furniture.....	165-166
Clothing stores.....	160-163	Grocery.....	155
Department stores.....	152	Hardware.....	151
Drug stores.....	171	Liquor.....	172
Eating and drinking places.....	170	Radio, television, and computer.....	169
Food stores.....	154	Shoe.....	164
Furniture stores.....	165-166	Variety.....	153
Grocery stores.....	155	Structural clay products.....	82
Hardware stores.....	151	Structural metal.....	100
		Sugar.....	29
		Beet.....	31
		Raw.....	30
		Refined.....	30
		Supermarkets.....	155
		Switchboard.....	126
		Switchgear and switchboard apparatus.....	126
		Synthetic fibers.....	38
		Telephone communications.....	146
		Television sets.....	135
		Textiles.....	38
		Tile:	
		Ceramic.....	85
		Clay.....	84
		Tires and inner tubes:	
		Labor productivity.....	76
		Multifactor productivity.....	180-181
		Tobacco products.....	35
		Chewing tobacco.....	36
		Cigarettes.....	36
		Cigars.....	37
		Smoking tobacco.....	36
		Toiletries.....	67
		Tools:	
		Hand and edge.....	98
		Metal cutting.....	116
		Metal forming.....	117
		Transformers, except electronic.....	125
		Transportation:	
		Air.....	144
		Bus.....	141
		Pipelines.....	145
		Railroads.....	139-140
		Truck.....	142-143
		Trucking, except local.....	142
		Trucking (except local), general freight.....	143
		Upholstered household furniture.....	51
		Utilities.....	147-149
		Electric.....	148
		Gas.....	149
		Valves and pipe fittings.....	106
		Variety stores.....	153
		Veneer.....	45-47
		Hardwood.....	46
		Softwood.....	47
		Washers.....	102
		Wet corn milling.....	26
		Wholesale trade:	
		Scrap and waste materials.....	150
		Women's clothing stores.....	162
		Wood containers.....	48
		Wood household furniture.....	50
		Wood kitchen cabinets.....	44
		Wood office furniture.....	55
		Wood products:	
		Cabinets.....	44
		Containers.....	48
		Furniture.....	50, 55
		Millwork.....	43
		Veneer and plywood.....	45-47
		Yarn spinning mills.....	40



END

10 - 22 - 93